

ALA MOANA BOULEVARD  
REDEFINING THE EDGE: REDEFINING THE URBAN STREETScape TO  
ACCOUNT FOR NEW AND PLANNED DEVELOPMENTS WITHIN THE  
ADJACENT NEIGHBORHOOD DISTRICTS

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## **ABSTRACT**

There are currently multiple layers of development that define the existing urban conditions surrounding and relating to Ala Moana Boulevard. Initial researcher reveals an inconsistency of program and activities happening along the edge of the boulevard. According to the existing body of knowledge, these inconsistent activities are tied back to bigger issues that involve the current residents and new stakeholders of the area.

The existing body of knowledge does not recognize a comprehensive master plan, or any master plan, that addresses the physical, social, and economic wellbeing of the site, which includes Ala Moana Boulevard and its respective users. In light of this, the intent of my research is to investigate all aspects of the past, understand the conditions of the present, and formulate a critical assessment of the site's future. In order to accomplish this, we must first gain a comprehensive understanding of street design and examine related concepts being implemented throughout Honolulu, America, and Europe.

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## **LIST OF ABBREVIATIONS**

**AIA.** American Institute of Architects

**CPAC.** Community Planning Advisory Council

**DOT.** Department of Transportation

**DPP.** Department of Planning and Permitting

**DTS.** Department of Transportation Services

**GGP.** General Growth Properties

**GWI.** Ground water inundation

**HART.** Honolulu Authority for Rapid Transportation

**HCDA.** Hawaii Community Development Authority

**ITE.** Institute of Traffic Engineers

**KAM.** Kamehameha Schools

**MLLW.** Mean Lower Low Water

**OHA.** Office of Hawaiian Affairs

**ROW.** Right-of-way

**SLR.** Sea level rise

**TIZ.** Transit-Influenced Zone

**TOD.** Transit-Oriented Development

**UH.** University of Hawai‘i

**WLCP.** Waikiki Livable Community Project

## CHAPTER 1: INTRODUCTION

Three years ago, I moved to Kaka’ako, an upcoming Honolulu neighborhood, which promises its residents a place to live, work, and play. Conveniently nestled between Honolulu’s downtown and Ala Moana districts, Kaka’ako offers young professionals and families the opportunity to live in proximity to daily destinations such as school and work, as well as various other services and activities, such as the beach, parks, restaurants, shopping districts, and more.

As a resident and regular pedestrian in Kaka’ako, I am interested in the ongoing conversation of access within the neighborhood. The Hawaii Community Development Authority (HCDA) is an agency created by the State of Hawai‘i (from here forward referred to as the State) whose purpose is the redevelopment and revitalization of “underutilized urban areas” that “...[have] the potential to provide great economic opportunities to the state once they [are] redeveloped.”<sup>1</sup>

Kaka’ako was the first district assigned to the HCDA. Along with the agency’s vision of creating a live-work-and-play neighborhood, is that of promoting a healthy lifestyle for residents and visitors by improving existing transportation methods and connections such as sidewalks and bicycle facilities. Both state and city and county agencies such as the Honolulu Authority for Rapid Transportation and the state Department of Transportation (DOT) are working in conjunction with the HCDA on this project. Together, these agencies have implemented a number of policies and guidelines for improving both major and interior networks connecting places within Kaka’ako and connecting Kaka’ako to other neighborhoods.

Ala Moana Boulevard, formally named Highway 92 by the Hawai‘i DOT, is the major east-west arterial between downtown Honolulu and Waikiki. It begins Downtown, at Richard Street, crosses through the Kaka’ako and Ala Moana neighborhoods, and ends at the Kalakaua Avenue intersection in Waikiki. Due to the boulevard’s proximity to the International Airport and its route directly into Waikiki, it has become one of the most important vehicular corridors in Honolulu. In 2003, the City and County of Honolulu (from here forward referred to as the City and County) introduced the designation the

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<sup>1</sup> Department of Business, Economic Development & Tourism, [Hawaii Community Development Authority](http://dbedt.hawaii.gov/hcda/about-hcda/), “About HCDA.” <http://dbedt.hawaii.gov/hcda/about-hcda/> (Accessed March 2015)

“Green Gateway,” which combines the boulevard’s role as the gateway to Waikiki with the city’s vision of developing it beyond its current function into a pedestrian-friendly corridor for visitors and residents looking to access adjacent neighborhoods and programs. The term *program* is used to describe the activities or scope of a specific place. With new developments in the works, there is hope that progress on the pedestrian experience of Ala Moana Boulevard will continue and improve access for all users, not just vehicles.

To better understand Ala Moana Boulevard’s role in Honolulu and the changes that can be made to improve the pedestrian experience and better link the neighborhoods, we need to gain a comprehensive understanding of street design and examine related concepts being implemented throughout Honolulu, America, and Europe.

This project’s body of knowledge includes a combination of case studies that reflect the most recent information taken from construction drawings and master plans provided by developers and public decision makers. The case studies shed light on Ala Moana Boulevard and its relationship to adjacent neighborhoods from both a regional and a pedestrian perspective, while also taking into account the individual agendas of each development and how these relate to the neighborhoods.

Prior to assessing the new developments, we must take a look at the history of the boulevard and its bordering neighborhoods. There are a number of existing conditions that have for years defined the pedestrian experience along Ala Moana Boulevard and within the Kaka’ako and Ala Moana neighborhoods. The new master plan projects currently in development will bring many changes. However, surprisingly, these projects will not address or make any changes to the pedestrian experience along the boulevard. This is not at the discretion of the developers working on the project.

The clarification between state and city and county jurisdiction is central to understanding the conditions of the boulevard, its adjacent programs, and potentials for development and change. Ala Moana Boulevard belongs to the state DOT; the HCDA, also a state agency, controls developments within Kaka’ako; and the Department of Permitting and Planning (DPP), run by the City and County, has control over developments coming up in the Ala Moana area. Although rules and regulations vary, the State and the City and County have a mutual understanding of the minimum required

throughway for pedestrians and bicyclists. These requirements, however, have been interpreted and executed differently by each developer.

## CHAPTER 2: STREETS

A street, in its simplest, form is capable of dividing land while also providing connection and access between destinations. It is an “ancient spatial typology” and the most “ubiquitous form of open space across the urbanized world.”<sup>2</sup>

### Medieval Streets

Medieval streets are the earliest representations we have of how humans organized open space in community environments. In contrast to the forms and functions of a typical boulevard, these types of streets are distinguished by their informal nature and arbitrary gestures. Vikas Mehta describes a medieval street as

a space where living, working and recreation all occur within the same space and time. The buildings containing the street are built to human scale with low floor heights and the street is narrow and small.... The street has a meandering “organic” layout resulting in irregular spaces and short views providing ambiguity and surprise.... The street is predominantly pedestrian oriented with a high density of dwellings and businesses; a variety of architectural forms and details; a high number of doors and windows, and projecting balconies and overhangs.<sup>3</sup>

Today, some of the best examples of medieval streets are found in European cities such as Copenhagen and Rome, where the first boulevards were created.

Compared to other types of European streets, medieval streets stand out for their ability to compel social engagement within the openings and pockets they arbitrarily create. The open spaces were not planned nor were the social activities that took place at any given moment pre-meditated; people congregated because they felt comfortable and access was convenient. Over time, however, medieval streets became congested and unsuitable for the growing populations in the cities around them.

In the mid-late nineteenth century, in response to concerns related to the congested, unsanitary, and unsafe conditions in Paris, Louis Napoleon Bonaparte commissioned Baron Georges-Eugène Haussmann to direct a major modernization and expansion project of all public spaces. Through this project, Bonaparte hoped to beautify the city by reestablishing the presence of public building within the public realm,

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<sup>2</sup> Mehta, Vikas. *The street: a quintessential social public space*. London: Routledge, 2013.

<sup>3</sup> Ibid.



improving infrastructure, and opening up crowded corridors where social unrest constantly brewed.<sup>4</sup>

### **Boulevards in Paris**

This major transformation of Paris marked the demise of medieval streets and the introduction of a new street classification, known today as the traditional boulevard. The word *traditional* here describes the grand boulevards of Paris that paved the way for the modern boulevard design that has spread throughout Europe and the United States. Different from the narrow, meandering medieval streets, the new boulevards brought organization and light to the whole city. The boulevard “is a wide, clean, and well-lit tree-lined street with uninterrupted and expansive sidewalk space for promenading.”<sup>5</sup>

The great boulevards of Paris, after the completion of the project, were a place for promenading, where the street was a “constructed grand gesture” defined by “stately buildings” and “handsome facades.”<sup>6</sup> A destination in itself, the boulevard was a place to see and be seen; it was an unofficial event, a social scene where members of the community dressed to look their best. Today, the Champs-Élysées remains one of Paris’s grandest and most famous boulevards, even with modifications that have taken place over the years

### **Boulevards in the United States**

Boulevards were first introduced in the United States as part of the City Beautiful Movement of the late nineteenth and early twentieth centuries.<sup>7</sup> In contrast to their role in large European cities like Paris, boulevards in the United States were first associated with new suburban developments, which typically contained single-family homes. These boulevards helped shape and sell the American dream of owning a home in a private suburban neighborhood; this was the case especially after World War II. It wasn’t long, however, before the American boulevard was redefined and redeveloped to accommodate

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<sup>4</sup> Jacobs, Allan B., Elizabeth Macdonald, and Yodan Rofé. *The Boulevard Book: History, Evolution, Design of Multiway Boulevards*. Cambridge, Mass.: MIT Press, 2002.

<sup>5</sup> Mehta, Vikas. *The street: a quintessential social public space*. London: Routledge, 2013.

<sup>6</sup> Ibid.

<sup>7</sup> Jacobs, Allan B., Elizabeth Macdonald, and Yodan Rofé. *The Boulevard Book: history, evolution, design of multiway boulevards*. Cambridge, Mass.: MIT Press, 2002.

various urban environments and needs. There are now three major classifications for the American boulevard; these are identified below:

- *The Center-Median Boulevard* is spatially defined by the central landscaped median, which is usually wide and flanked by a roadway and sidewalk combination on either side. The central median is either built wide enough to be a pedestrian promenade or, where space is lacking, is a green buffer for adjacent roadways. An example of a center-median boulevard is Monument Avenue in Richmond, Virginia.
- *The Boulevard Street* is spatially defined by a single-central roadway, usually very wide, and flanked by broad tree-lined sidewalks on either side. An example of a boulevard street is Boulevard Haussmann in Paris.
- *Multiway Boulevards* are distinctly different from the Center-Median and Boulevard Street. With the capacity to carry out multiple functions in an organized manner, multiway boulevards are “designed to separate through traffic from local” while also providing a separate right-of-way for pedestrians.<sup>8</sup> An example of a multiway boulevard is Octavia Boulevard in San Francisco, California.

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<sup>8</sup> Jacobs, Allan B. *Great streets*. Cambridge, Mass.: MIT Press, 1993.

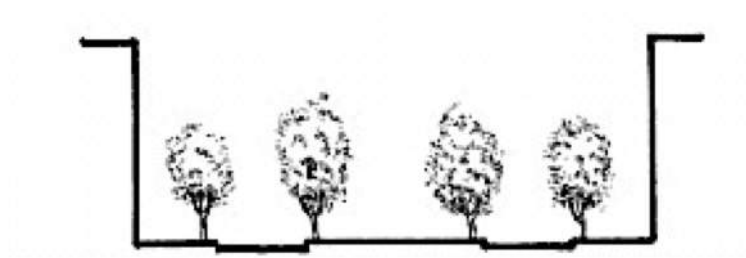


Figure 1: Center Median Boulevard  
Source: Jacobs, Macdonald, Rofé, 2002

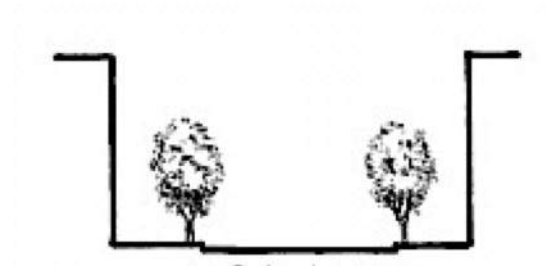


Figure 2: Boulevard Street  
Source: Jacobs, Macdonald, Rofé, 2002



Figure 3: Multi-way Boulevard  
Source: Jacobs, Macdonald, Rofé, 2002

A typical multiway boulevard is characterized by one central roadway of at least four lanes dedicated to fast and nonlocal or through traffic, and two one-way side access roads dedicated to local slow-moving traffic. Depending on the needs of the surrounding buildings and programs, the side access lanes may offer street parking on either side or a

moving lane. Unlike any other type, the multiway boulevard addresses the challenge of allowing “contradictory but often complementary forms of movement, both essential to the life of the city, to coexist in the same street space.”<sup>9</sup>

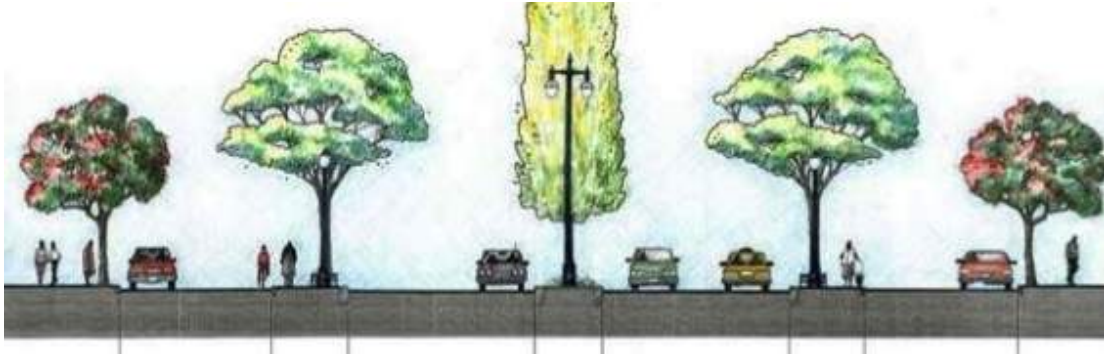


Figure 4: Octavia Boulevard Section

Source: Project for Public Spaces

(<http://www.pps.org/reference/octavia-boulevard-creating-a-vibrant-neighborhood-from-a-former-freeway/>)

Octavia Boulevard is one of many successful multiway boulevards in San Francisco. Completed in 2005, the boulevard was once the site of an elevated freeway that was damaged beyond repair in an earthquake. Octavia Boulevard relates to Ala Moana Boulevard in that it shares the same level of responsibility as a major transportation pathway connecting key destinations.

From 1950 to the end of the twentieth century, the concept of the multiway boulevard was under criticism by engineers and other professionals due to its inherent complications and dangerous intersections.<sup>10</sup> At the same time, the campaign to meet the needs of the developing automobile culture was growing and would eventually shift the focus of all major streets from pedestrian-centered to vehicle-centered, and also shift priorities when determining the use of public, open spaces such as streets and boulevards.

Founded in 1930, the Institute of Traffic Engineers (ITE) is an association of transportation professionals “responsible for meeting mobility and safety needs,” according to their website. Attempting to satisfy both the requirements of fast vehicular

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<sup>9</sup> Jacobs, Allan B., Elizabeth Macdonald, and Yodan Rofé. *The Boulevard Book: history, evolution, design of multiway boulevards*. Cambridge, Mass.: MIT Press, 2002.

<sup>10</sup> Ibid.

movement as well as the access needs of abutting properties, the ITE introduced the rule of Functional Classification, classifying streets based on their primary functions.<sup>11</sup> More specifically,

Functional Classification separates streets into different types according to the vehicles' movement and property access functions they are supposed to perform. Basically, the method assigns specific movement and access function to each street type. The two functions are inversely correlated; that is, the higher the movement function, the lower the access function.<sup>12</sup>

Using this method, fast moving through traffic would no longer be permitted to co-exist with slow-moving local traffic or pedestrian traffic.

Once again, the street system in American was redefined to meet the changing needs of the American lifestyle. The five classifications described below were established by the ITE and applied throughout the United States:

- *Freeways* are divided highways that carry longer-distance and major through traffic flows between important activity centers; access is controlled and there are no at-grade intersections.
- *Expressways* carry out the same functions, similar to freeways, however at-grade intersections are permitted; in this case, major intersections are required to be graded separately.
- *Arterials* are also similar in function to freeways, however like expressways, at-grade intersections are permitted. Arterials typically allow for direct access to abutting properties, however, per Jacobs, access is usually limited to intersections at one-half to one-miles intervals.
- *Collector streets* primarily provide links between local streets and arterial streets. Unlike expressways, these types of streets serve local through-traffic and serve abutting land use programs.

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<sup>11</sup> Institute of Transportation Engineers "About ITE." *Institute of Transportation Engineers*. <http://www.ite.org/aboutite/index.asp>. (Accessed May 15, 2014).

<sup>12</sup> Jacobs, Allan B., Elizabeth Macdonald, and Yodan Rofé. *The Boulevard Book: history, evolution, design of multiway boulevards*. Cambridge, Mass.: MIT Press, 2002.

- *Local streets* primarily provide access to abutting land use programs. Trips are usually shorter and movement is usually slower, allowing for more pedestrian interaction and activity.<sup>13</sup>

To supplement and clarify these definitions, ITE professionals developed a combination of street-design standards for each of the classifications above. These design standards are based on the criteria of access control, design speed criteria, design volume criteria, level of service criteria, and highway capacity criteria.

### **Streets in Honolulu**

In their most recent master plan for Kaka’ako Mauka, the HCDA produced a list of street classifications for all developers to consider when planning new developments. The HCDA based the classifications on the 2006 ITE report, the most recent one available at the time. Taking into consideration the anticipated plans and developments for Kaka’ako, the following five classifications were spelled out:

- *Low speed boulevards* are designated to carry both through and local traffic while also providing separate throughways for pedestrians and bicyclists. These boulevards will serve longer trips, be able to support traffic flow, and provide limited access to land. Low speed boulevards will typically have no more than four lanes.
- Avenues will act as urban arterial and collector streets while allowing access to abutting lands. These types of streets will primarily serve pedestrian and bicycle routes and may also serve local transit routes. Like low speed boulevards, avenues will not exceed four lanes.
- Streets are designed to primarily serve abutting properties and connect residential neighborhoods to each other. All streets, low speed boulevards, and avenues, despite their primary functions, are required to be walkable.
- Service streets and alleys are not routes meant for pedestrians and do not need to be walkable. Their primary function is to provide vehicular access to lots. These types of streets typically have two travel lanes and one parking/loading lane.

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<sup>13</sup> Ibid.

According to the HCDA, the minimum right-of-way for a service street within the Kaka’ako neighborhood is forty feet.<sup>14</sup>

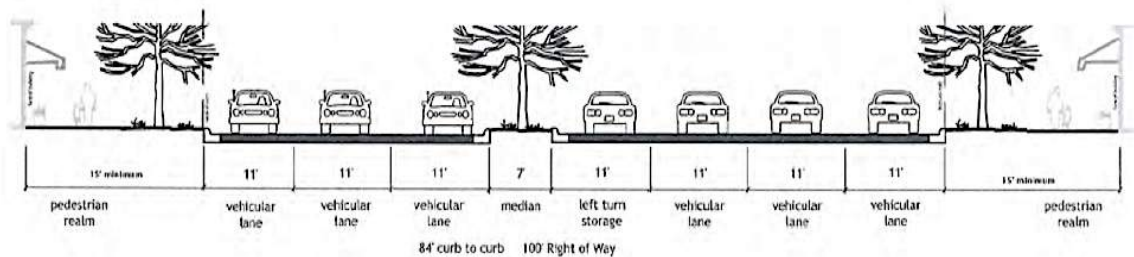


Figure 5: Ala Moana Boulevard Roadway Section  
Source: HCDA, Mauka Master Plan

In the *Kaka’ako Mauka Area Plan*, the HCDA designates Ala Moana Boulevard as a boulevard promenade consisting of six travel lanes, left-turn lanes, and a median. According to the roadway section provided, Ala Moana Boulevard is defined by a one-hundred-foot right-of-way (ROW), which includes a fifteen-foot pedestrian realm. The standard width for a vehicular lane is eleven feet, leaving seven feet for the center median. The HCDA has also established a set of guidelines for the pedestrian realm along boulevards and promenade streets, further breaking down the fifteen-foot minimum requirement.<sup>15</sup> The HCDA explains,

The term pedestrian realm is used to describe in detail the layout of what is commonly referred to as the “sidewalk area.” The pedestrian realm consists of a tree/furniture zone next to the curb, a clear walk zone, and “shy space” at the face of the adjacent building.<sup>16</sup>

According to the other sections provided, avenues and streets are also required to provide a pedestrian realm on both sides, ranging from eleven to fifteen feet in width. Standard lane widths are also narrowed to ten feet leaving room for street parking, which is approximately eight feet wide.

The HCDA argues that safety and accessibility for pedestrian users have become secondary to the vehicular functions carried out by major street corridors in Kaka’ako

<sup>14</sup> Hawaii Community Development Authority. “Plans/Rules: Mauka Area Plan.” *Hawaii.gov*. <http://dbedt.hawaii.gov/hcda/plans-rules/>. (Accessed January 9, 2014).

<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

Mauka. Because of this, the HCDA has set forth guidelines to improve the connectivity and pedestrian conditions in the area, starting by re-classifying pedestrian travel. The HCDA recognizes the following four different classifications of pedestrian travel that correspond directly to the existing conditions within Kaka’ako Mauka:

- *Pedestrian Places* are ideal for Kaka’ako Mauka and will flourish with the anticipated high-density mixed-use developments. Success comes with the ability to provide an array of pedestrian accommodations and venues for recreational activities. The HCDA identifies Ward Center as the only existing pedestrian place in Kaka’ako Mauka.
- *Pedestrian Supportive Environments* come equipped with generous sidewalks and other pedestrian accommodations to supplement safe travel along vehicular streets. Land use programs attract users but do not include enough activity for the area to be considered a pedestrian place. The HCDA, in the Mauka Master Plan, names Cooke Street as an existing pedestrian supportive environment.
- *Pedestrian Tolerant Environments* suggest pedestrian travel; however land use programs are most likely of less interest to users who pass through the area. According to the HCDA, a majority of the streets in Kaka’ako Mauka are pedestrian tolerant environments.
- *Pedestrian Intolerant Environments* are usually auto-oriented and do not offer safe or accessible routes for pedestrian travel. According to the HCDA, the existing conditions within central Kaka’ako make the entire neighborhood a pedestrian intolerant environment.<sup>17</sup>

Ala Moana Boulevard currently falls into the pedestrian tolerant category. This is due to the existing programs, which consist of car dealerships and privately owned commercial businesses. This will be discussed more thoroughly in chapter three.

### **Complete Streets**

The National Complete Streets Coalition was assembled in 2004 and, according to their website, is a movement that “integrates people and place in the planning, design,

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<sup>17</sup> Ibid.



construction, operation, and maintenance of our transportation networks.” The coalition recognizes that streets are for everyone, not just vehicles and pedestrians; it recognizes all modes of transportation and mobility, and works to ensure safety and access at all times.<sup>18</sup> It is important to note that Complete Streets are contingent on the execution of a Complete Street Policy, which requires the cooperation and partnership of both state and city and county parties throughout the entire process, including evaluation, planning, implementation, and enforcement. In contrast to other notions such as Smart Growth and New Urbanism, Complete Streets are not a pre-fabricated solution with a checklist of guidelines, but instead each policy is subjective and based on context.

### **Complete Streets in Hawai‘i**

The City and County began the process of adopting a *Statewide Complete Streets Policy* with Act 54. The Complete Streets Task Force was created in 2009, a comprehensive group of government and non-government transportation stakeholders located throughout the state of Hawai‘i. In 2010, the Task Force published the Complete Streets Legislative Report that documented the processes of evaluation and planning with a proposed set of recommendations for implementation and enforcement. This report eventually served as the basis for Bill 26, a Complete Streets Policy for Honolulu, approved and signed in 2012.

Honolulu’s *Complete Streets Policy* currently recognizes ten principles and objectives that are applicable to the city and county environs. These are:

1. *Safety*: Plan, design, and construct transportation facilities and land developments to create an environment that reduces risk and supports the safe movement of people and goods by all modes.
2. *Flexible design (context sensitive solutions)*: Design transportation facilities using best practices that integrate community values and recognize the importance of the surrounding context and environment.
3. *Accessibility and mobility for all*: Plan and design transportation facilities for ease of use and access to destinations by providing an appropriate path of

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<sup>18</sup> Oahu Metropolitan Planning Organization. “Publications and Reports: Complete Streets Report- Act 54.” *Oahu Metropolitan Planning Organization*. <http://www.oahumpo.org/resources/publications-and-reports/>. (Accessed April 17, 2014).

travel for all users, and enhance the ability to move people and goods throughout the state and its counties.

4. *Use and comfort for all users*: Ensure all users of all abilities including bicyclists, pedestrians, transit riders, and drivers feel comfortable and safe using the transportation system.
5. *Consistency of design standards and guidelines*: Encourage consistent use of national best practices to generate consistency in the application of striping and pavement markings for all users on all islands. References of national best practices include the Manual on Uniform Traffic Control Devices and A Policy on Geometric Design of Highways and Streets (American Association of State Highway and Transportation Officials Green Book).
6. *Energy efficiency*: Plan, design, and construct a transportation system that offers transportation choices for residents and visitors and reduces reliance on single-occupant vehicles to improve energy efficiency in travel, and mitigates vehicle emissions.
7. *Health*: Recognize the health benefits in providing alternative mode choices, while acknowledging that some routes may be healthier than others.
8. *Appropriate funding*: Support a jurisdictions ability to secure funding for multimodal facilities and provide a framework to consider and pursue funding sources and opportunities.
9. *Building partnerships with organizations statewide*: Build partnerships among the HDOT, the Counties, other governmental agencies, and stakeholders to implement Complete Streets throughout the state.
10. *Green infrastructure/streets*: Use trees and landscaping as integral components of Complete Streets to provide both human and ecosystem benefits including shade, a reduction of the urban heat island effect, vegetation for carbon sequestration, a reduction/filtering of non-point source pollution and sediments, the retention of storm water, an increase in groundwater recharge, and a greater number of wildlife habitats.<sup>19</sup>

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<sup>19</sup> Department of Transportation, State of Hawaii. "Complete Streets Legislative Report." <http://www.oahumpo.org>. (Accessed August 19, 2014).

The existing land use programs along Ala Moana Boulevard are not consistent in their function and thus it is difficult to classify the boulevard. The priority constantly shifts between mobility and accessibility. Developers and planners, therefore, need to design for the second principle and propose context sensitive solutions based strictly on existing and new land use functions. Land use essentially determines who will use a space and what capacity of access is necessary. Areas that require less access to abutting properties will experience greater mobility; areas that require more access to abutting properties will experience less mobility. Mobility refers to vehicular movement in response to the surrounding programs and activities. A majority of the new development is planned for Kaka’ako Mauka, thus developers at Kamehameha School (KAM) face the additional challenge of coordinating with the existing programs that will remain on the makai side.

Today, as part of their Transit-Oriented Development (TOD) Proposal for Kaka’ako, the HCDA shares their customized version of a Complete Streets framework for the Kaka’ako neighborhood. Driven by a new modal hierarchy that puts pedestrians first, new design principles and objectives were created for Kaka’ako.



Figure 6: KCDD (new) Modal Hierarchy  
Source: HCDA, Complete Streets in Kaka’ako (TOD Plan)

Based on the ten design principles above, the HCDA established four basic design principles that will be used to calculate design response and solutions throughout Kaka’ako; it is basically a framework for making decisions, which the HCDA calls a multimodal approach. The four principles are:

1. *Livability*: Livability requires that the broadest possible array of users is being served, including motorists, pedestrians, bicyclists, and the auxiliary needs of land use that may extend into the street ROW. Livable street design uses lane configurations and dimensions that balance different street uses and ensures aesthetics, plantings, and furnishings, which transform a streetscape into a useable public space.
2. *Demand*: The demand that redevelopment will have on the Kaka'ako Community Development District must be addressed in the design of district streets. Neighborhoods within the district that will experience the largest increases in residential and commercial growth need to be supported by streets that can move the most people, rather than the most cars. Assuming that the ROW of streets will remain consistent, the combination of redesigned multimodal streets and new street connections will need to carry the load of additional travel demand within and through the district.
3. *Access and Mobility*: The city's current functional classification typology is based on defining different streets with respect to their general function in the transportation system and consists of minor arterials, collector streets, and local streets. This remains important for the street types defined in this chapter, with cross-sections designed to meet access and mobility needs.
4. *Safety*: Safety is the most important factor when designing streets. Some streets in particular feature adjacent uses or have certain user needs that require special safety accommodations. Accommodating mobility as described above does not involve designing for high speed traffic; keeping pedestrians and bicyclists safe often requires slowing traffic down. Traffic facilities, schools, hospitals, religious sites, and other community-oriented land uses that generate pedestrian traffic often require special treatments or even a cross-section design that emphasizes narrower lanes and design elements that further reduce vehicle speed. This is most critical at

intersections and mid-block crossings where conflicts between pedestrians, bicyclists, and motorists are at their highest concentration.<sup>20</sup>

Moving forward, the HCDA believes that this multimodal approach is the first step toward rethinking how street performance is measured.

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<sup>20</sup> Hawaii Community Development Authority. "Transit Oriented Development Plan." <http://dbedt.hawaii.gov/hcda/transit-oriented-development-plan/complete-streets-in-kakaako/>. (Accessed November 2, 2014).

## CHAPTER 3: ADJACENT NEIGHBORHOODS

### Kaka’ako and Ala Moana Neighbored Districts

Ala Moana Boulevard crosses through four major Honolulu neighborhoods, as previously indicated, including Downtown, Kaka’ako, Ala Moana, and Waikiki. A majority of Oahu’s professional practices and businesses are located downtown. Waikiki is the heart of Oahu’s tourist industry; a majority of tourists visit or stay in Waikiki. Situated between these two major destinations are the mixed-use, TOD neighborhoods Ala Moana and Kaka’ako.

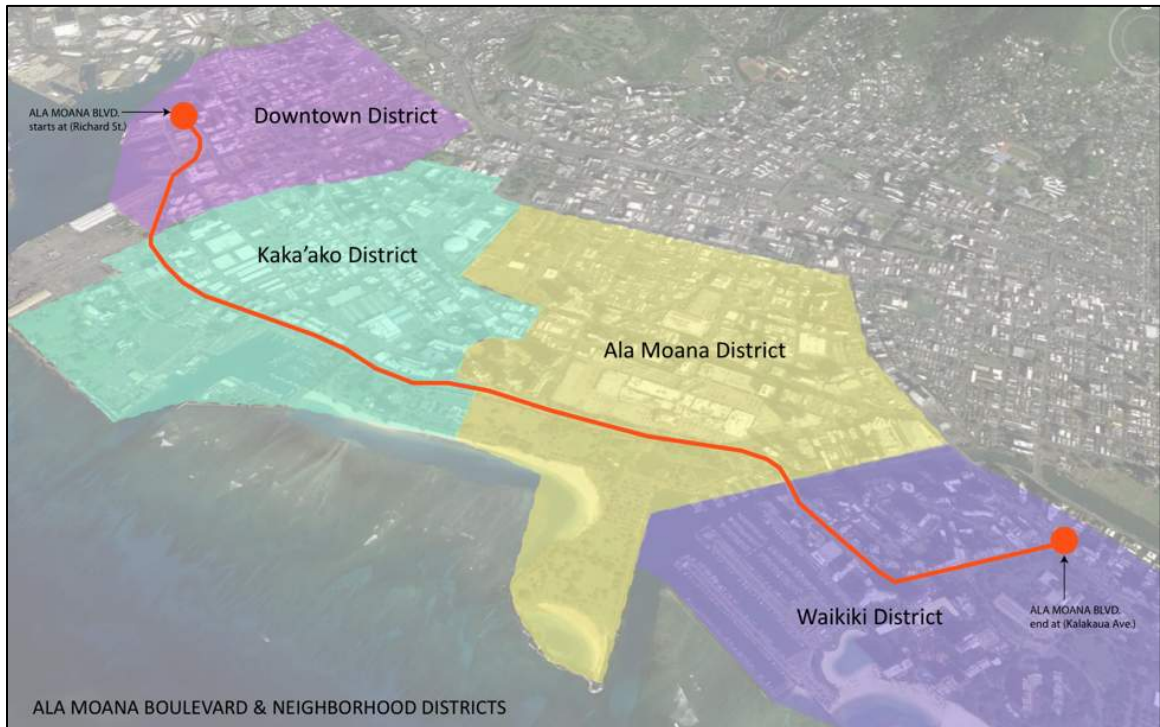


Figure 7: Ala Moana Boulevard and Neighborhood Districts

Source: Heidi Suan, University of Hawai‘i at Mānoa

Kaka’ako was the HCDA’s first named development district and remains under their jurisdiction. Originally, the area was called the Kaka’ako District but it is now

referred to as Kaka’ako Mauka. In 1983, the HCDA also adopted the area makai of Ala Moana Boulevard and named it Kaka’ako Makai.<sup>21</sup>

According to the HCDA, there are currently seven neighborhoods within Kaka’ako Mauka, each with its own identity, land uses, building forms, and land tenure patterns. These seven neighborhoods are listed and described below in order of relevance to the boulevard:

- The *Civic Center Neighborhood District* is home to many significant and historic buildings in Honolulu. This district is characterized by important government and civic buildings. The building height limit in this area is sixty-five feet, and there are strict building setback and minimum front yard requirements designed with the intention of maintaining the “campus-like” character of the neighborhood. Land use developments are not meant to attract visitors; most pedestrians in the area are there for business. This neighborhood is thus a pedestrian tolerant environment.
- The *Thomas Square Neighborhood District* is focused around the historic Thomas Square Park. This neighborhood is home to some of Honolulu’s major cultural and educational venues. In order to protect the character of the neighborhood, the City and County has adopted the Thomas Square/Honolulu Academy of Arts Special District, setting regulations for building height, setback, landscaping and other design controls. Major events are often held at the venues in this area, attracting high-density pedestrian movement. This is sometimes problematic due to the major vehicular corridors passing through the area. Some of these major corridors include South King Street and Ward Avenue. Despite setback requirements for buildings, very little space is provided for pedestrians looking to access these venues. For this reason, the Thomas Square Neighborhood is also considered a pedestrian tolerant environment.
- The *Sheridan Neighborhood District* is composed primarily of residential lots with some commercial lots interspersed. The lots in this neighborhood are smaller and fee simple. According to the HCDA, some building renovations and

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<sup>21</sup> Hawaii Community Development Authority. “Plans/Rules: Mauka Area Plan.” *Hawaii.gov*. <http://dbedt.hawaii.gov/hcda/plans-rules/>. (Accessed January 9, 2014).

smaller redevelopments are planned for the next couple years, however the scale and pace of change is anticipated to be minimal compared to the other neighborhood districts. Land use developments are not meant to attract visitors or others who do not live in the area, however pedestrian facilities are lacking and do not necessarily provide safe connections for residents living in the area. This neighborhood would be considered a pedestrian tolerant environment.

- The land uses in the *Kapiolani Neighborhood District* are strongly influenced by the presence and role of the boulevard as a high-capacity transportation route. The Kapiolani neighborhood acts as a “corridor” that connects Honolulu’s business and civic districts to its retail and tourist districts. The shaded sidewalks and wide planting strips set an attractive foundation for future mixed-use developments and a thriving pedestrian experience at the street front.<sup>21</sup> Despite its primary role as a vehicular corridor, the HCDA currently recognizes Kapiolani Boulevard as a pedestrian supportive environment.
- The *Central Kaka’ako Neighborhood District* has an industrial character and is dominated by Honolulu’s service businesses, including repair shops and production facilities. Lots in this area are smaller and individually owned. All business owners and customers are affected by the area’s poor infrastructure, storm drains, inadequate parking, and lack of sidewalks. According to the HCDA, this neighborhood is considered a pedestrian intolerant environment.
- The *Auahi Neighborhood District* “is a neighborhood whose focal point is emerging as a retail and entertainment center along Auahi Street.”<sup>21</sup> Though most of the land is under single ownership, with improvements to street connections and pedestrian corridors and facilities, the HCDA sees potential for it to become a mixed-use “urban village.” The Ala Moana Shopping Center, currently owned by General Growth Properties (GGP), is within the Auahi neighborhood district.
- The *Pauahi Neighborhood District* also contributes to the HCDA’s vision of building a mixed-use “urban village” in Kaka’ako. New development in this neighborhood has been slow over the past few years. However, the intersection of the new rail transit system, which will hold the main Kaka’ako rail station located on Halekauwila Street, will be a promising improvement. Today, a



majority of the land in the Pauahi district is owned by the KAM and the Howard Hughes Corporation. Both developers have submitted documents to the HCDA for future developments.<sup>22</sup> Although current land use developments within Auahi and Pauahi attract visitors and residents, a majority of the areas along Ala Moana Boulevard are still considered pedestrian tolerant environments.

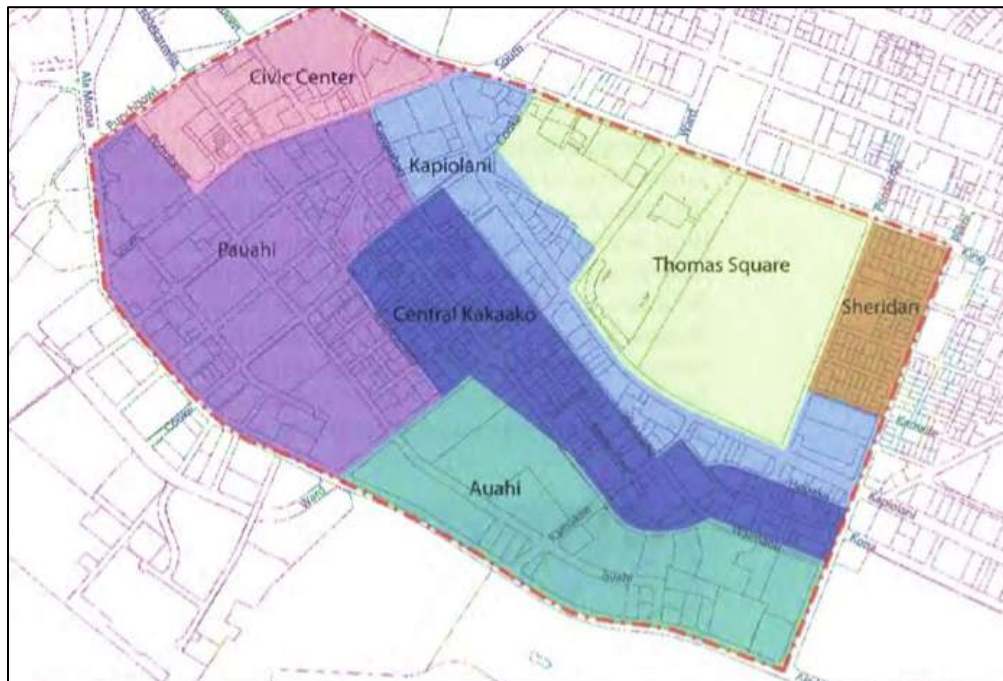


Figure 8: Kaka'ako Mauka Neighborhood Districts  
Source: HCDA Mauka Master Plan

The Ala Moana Neighborhood District, with its world famous Ala Moana Shopping Center, sits right next to the Kaka'ako District. While the neighborhood consists of a combination of retail, commercial, and residential sectors, the Ala Moana Shopping Center is its current anchor and dominates Ala Moana Boulevard's mauka street front. GGP owns the shopping center and thus plays a crucial role in addressing the state of Ala Moana Boulevard in the neighborhood. In contrast to the physical development of Kaka'ako Mauka, the makai side of the boulevard primarily consists Ala Moana Beach Park and Magic Island.

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<sup>22</sup> Ibid.

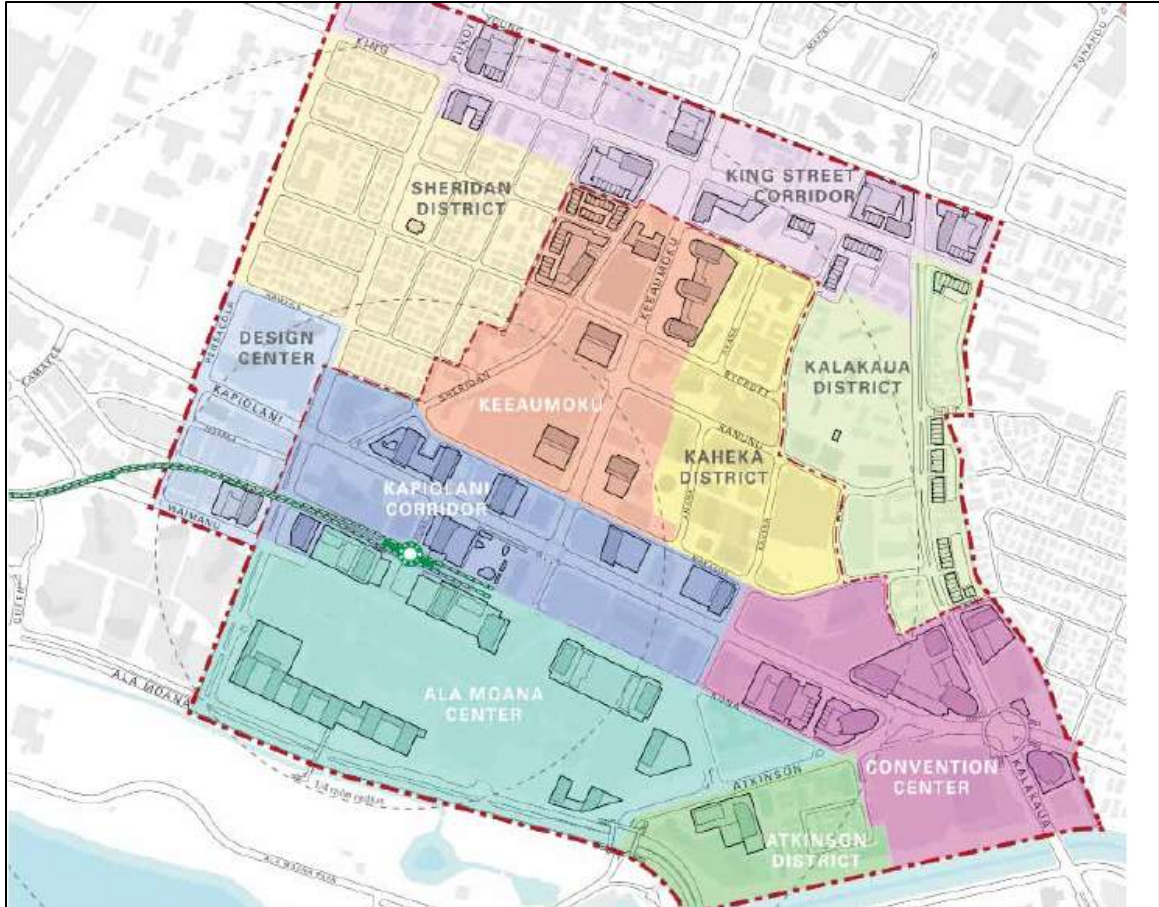


Figure 9: Ala Moana Neighborhood TOD and TIZ Precinct  
Source: City and County of Honolulu

The City and County, as part of the TOD plan and similar to the Kaka’ako neighborhood classifications, has distinguished ten precincts within the Ala Moana area, six of which are TOD precincts and four of which are transit-influenced zone (TIZ) precincts. The City and County determined that all areas within a ten-minute walk of the proposed Ala Moana Rail Station would be considered TOD precincts, while all other areas on the periphery but still connected by a walkable street would be considered TIZ precincts. Some of the TOD and TIZ precincts are also identified as neighborhood districts by the HCDA, in which case the HCDA has partial jurisdiction. The ten precincts are listed and described below:

- The *Ala Moana Center* precinct is clearly defined by the Ala Moana Shopping Center. As “a major driver of economic activity for this neighborhood, the future of the Ala Moana district is tied with the long-term viability of the mall as a local,

regional, and tourist destination.”<sup>23</sup> While Ala Moana Center attracts large crowds of residents and visitors daily, pedestrians who access the mall from the street level must first pass through the parking structure, which buffers the shopping center from the street. This condition is what causes this precinct to be identified as a pedestrian tolerant environment.

- The *Kapiolani Corridor* “is one of the district’s primary commercial corridors” and “links Ala Moana with Downtown and Waikiki.”<sup>24</sup> The corridor is currently a mixture of “low-intensity commercial establishments interspersed with high-value, high-intensity buildings.”<sup>25</sup> These characteristics make the corridor unique. The City and County share jurisdiction over the programs and land use developments along Kapiolani Boulevard; both are in agreement that this is a pedestrian supportive environment.
- The *Convention Center* is this precinct’s anchor and acts as a gateway between the Ala Moana and Waikiki districts. Future projects should focus on bringing to this area elements that complement the Convention Center such as hotels, restaurants, and retail establishments. Assuming these changes are forthcoming, current street conditions need to be improved so that they support the large capacity of pedestrian traffic anticipated. The poor sidewalk and crossing conditions on adjacent streets currently make it unsafe for large groups of pedestrians. To some extent, this can be considered a pedestrian intolerant environment.
- The *Keeaumoku* precinct serves as the major mauka-makai connector between “upland communities and the heart of the Ala Moana neighborhood,” and is home primarily to small-scale commercial establishments mainly serving local clientele.<sup>26</sup> The two main attractions in this area are Sam’s Club and Walmart, located one block mauka of Kapiolani Boulevard and the Ala Moana Shopping Center. Given its close proximity to the proposed rail station, this area has the

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<sup>23</sup> City and County of Honolulu. “Ala Moan Neighborhood Transit-Oriented Development Plan.” [http://www.honolulu.gov/rep/site/dppto/alamoana\\_docs/Ala\\_Moana\\_TOD\\_Plan\\_-\\_Public\\_Review\\_Draft\\_small.pdf](http://www.honolulu.gov/rep/site/dppto/alamoana_docs/Ala_Moana_TOD_Plan_-_Public_Review_Draft_small.pdf) (Accessed March 16, 2015).

<sup>24</sup> Ibid.

<sup>25</sup> Ibid.

<sup>26</sup> Ibid.

potential to become a pedestrian place outside of the Ala Moana Shopping Center. However, this is dependent on improvements being made to the existing sidewalk conditions

- The *Kaheka* precinct is a densely populated residential neighborhood east of Keeaumoku Street. Physically built out, there is very little opportunity for new development.
- The *Atkinson* precinct is another residential neighborhood characterized by older low-rise apartment building and newer high-rise condominiums. Similar to the Kaheka precinct, not much change is slated for this neighborhood. The Kaheka and Atkinson precincts are both residential neighborhoods with no interest in attracting visitors or large crowds of pedestrians. Both are considered pedestrian tolerant environments; the sidewalk conditions could be improved so that residents can more safely access facilities and services by foot.
- The *Design Center* is one of the four TIZ precincts considered part of the Ala Moana TOD Master Plan. It is important to note that all parcels within this area are under the jurisdiction of the HCDA and must abide by the Mauka Master Plan. Major destinations in this neighborhood are the Honolulu Design Center and the Blaisdell. This neighborhood has the potential to attract small- and medium-size business owners, however current conditions only support changes on the makai side of Kapiolani Boulevard.
- The *King Street Corridor* is the critical link between Downtown and the University of Hawai‘i. Comprised primarily of small-scale commercial businesses, this corridor is currently underdeveloped and can be considered a pedestrian tolerant environment.
- The *Kalakaua* precinct is another critical mauka-makai link that connects upland communities with Waikiki. Characterized by a mix of residential and commercial programs, the neighborhood should be redeveloped to establish a more consistent development pattern and visual character. Current street conditions do not support pedestrian travel to adjacent precincts, such as the Convention Center or Ala Moana, which classifies this precinct as a pedestrian intolerant environment.

- The *Sheridan* precinct is partially under the HCDA's jurisdiction. Primarily a residential neighborhood, this precinct is characterized by small apartment buildings and older single-family homes. Moving forward, the goal is to protect the existing residential character by limiting construction activities to building renovations and sensitive infill projects.<sup>27</sup> As previously discussed, this area is a pedestrian tolerant environment.

## **Existing Connections**

A network of streets and avenues support Ala Moana Boulevard, many of which have been recognized by the HCDA and the City and County as neighborhoods themselves. Kapiolani Boulevard, which runs parallel to Ala Moana Boulevard, plays a significant role in connecting the downtown and Waikiki neighborhood districts. According to the HCDA, Kapiolani is a boulevard consisting of six travel lanes and a one-hundred-foot ROW.<sup>28</sup>

Just as significant are the major mauka-makai connections that pass through each neighborhood and intersect with Ala Moana Boulevard. Ward Avenue stands out as the primary vehicular link connecting upland communities to the services and activities happening within Kaka'ako Mauka. According to the HCDA, Ward Avenue, like Ala Moana Boulevard, is considered a promenade street with an eighty-foot ROW.<sup>29</sup>

Three blocks east of Ward Avenue is Pi'ikoi Street, another major mauka-makai vehicular corridor. Similar in size and function to Ward, Pi'ikoi Street serves as the primary mauka-makai corridor for the Ala Moana neighborhood. Despite its current name, according to the HCDA street classifications, Pi'ikoi is actually an avenue with an eighty-foot ROW. Other streets such as Keeaumoku and Punchbowl are also significant mauka-makai links in each neighborhood that help to relieve the daily traffic flow.

Atkinson Drive, conveniently located between the Ala Wai Canal and the eastern border of the Ala Moana Shopping Center, serves as a chief road for tourists and visitors

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<sup>27</sup> City and County of Honolulu. "Ala Moan Neighborhood Transit-Oriented Development Plan." <http://www.honolulu.gov/tod/neighborhood-tod-plans.html>. (Accessed January 17th, 2015).

<sup>28</sup> Hawaii Community Development Authority. "Plans/Rules: Mauka Area Plan." *Hawaii.gov*. <http://dbedt.hawaii.gov/hcda/plans-rules/>. (Accessed January 9, 2014).

<sup>29</sup> Ibid.

coming from Waikiki looking to access both the shopping center and the Ala Moana Beach park on foot. The high number of pedestrians, bicyclists, and vehicles that pass through the Atkinson/Ala Moana intersection each day makes this one of the most important crossing points along the boulevard. Both the Ward and Piʻikoi intersections face similar conditions and are required to provide all users access to abutting establishments and activities on both sides of the boulevard.

A network of interior or local streets supports these major connections within the neighborhoods. Many of these will be redeveloped as part of the new master plans proposed for each neighborhood, including but not limited to Cooke Street, Auahi Street, Queen Street, and Kamakee Street.





Figure 10: Major Connections Associated with Ala Moana Boulevard  
 Source: Heidi Suan, University of Hawai‘i at Mānoa



Figure 11: Existing Signalized Intersections and Crosswalks  
 Source: Heidi Suan, University of Hawai‘i at Mānoa

## Existing Programs



Figure 12: Existing Programs

Source: Heidi Suan, University of Hawai'i at Mānoa

There are a number of existing conditions that have, for years, defined not only the pedestrian experience, but the experience for all users along Ala Moana Boulevard and within the Kaka'ako and Ala Moana neighborhood districts. Prior to considering and accepting any new development, it is important to understand the characteristics that make up the existing physical and social personalities of each neighborhood.

Despite inconsistencies in programming, there is a culture and community within each neighborhood that should be integrated into future developments. The following maps were instrumental in documenting and analyzing existing programs and patterns within the Kaka'ako and Ala Moana neighborhood districts.





Figure 13: Existing Retail and Commercial Programming  
Source: Heidi Suan, University of Hawai‘i at Mānoa

### *Existing Commercial and Retail Programs*

A combination of commercial and retail programs currently defines Ala Moana Boulevard. These are, largely, big-box retail enterprises, such as Ala Moana Shopping Center, Ward Warehouse, and Ward Center, and private commercial businesses, such as luxury car dealerships.

While the location of these programs may appear arbitrary and disconnected, there is a level of consistency among them, particularly regarding their attitude related to the boulevard. Notice that the entrances for all establishments within the Ward Warehouse and the Ward Center face inward, or mauka, instead of outward toward the boulevard, or makai. The lack of shade and limited sidewalk space suggests that the Ala Moana Boulevard is not intended for pedestrians and is not a convenient option for accessing the retail and commercial services nearby. The Ala Moana Shopping Center also describes the same detached relationship with the boulevard; there is approximately 200 feet of parking between the boulevard and the mall’s storefronts.

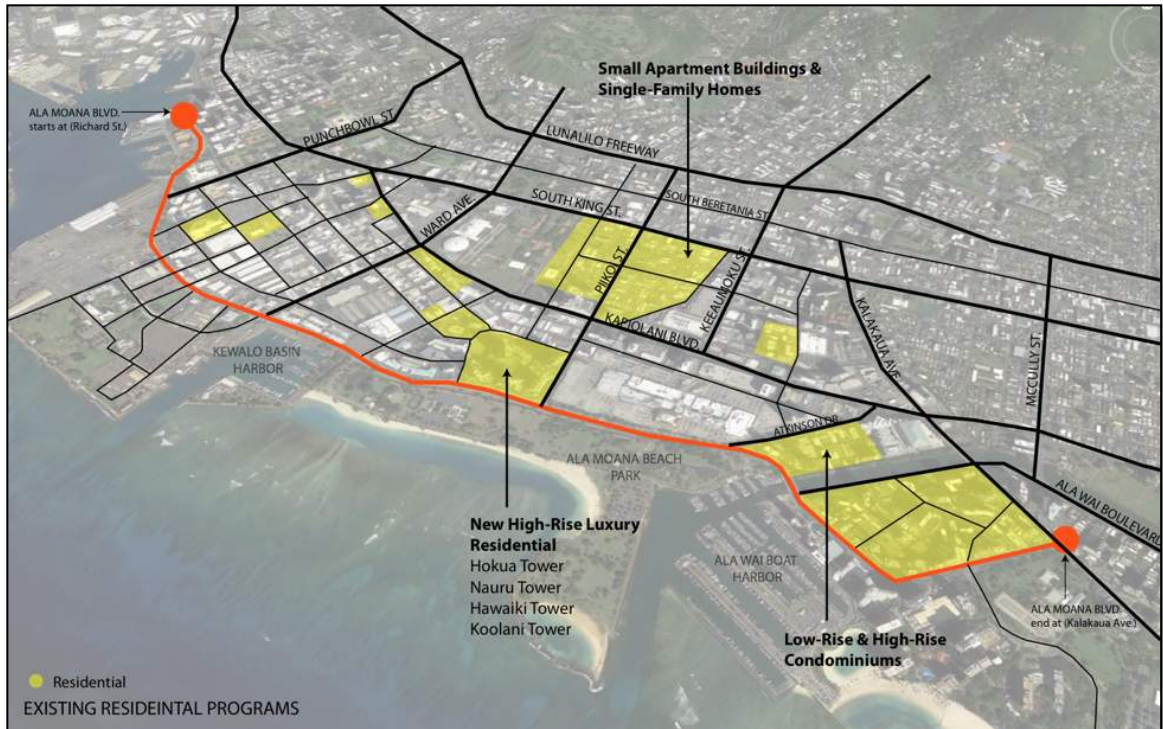


Figure 14: Existing Residential Programs  
 Source: Heidi Suan, University of Hawai‘i at Mānoa



Figure 15: Existing Industrial Programs  
 Source: Heidi Suan, University of Hawai‘i at Mānoa



### ***Existing Residential Programs***

There are inconsistencies with the residential programs within the Kaka’ako and Ala Moana neighborhood districts. The clustering of the newer developments along the boulevard reflects an effort to build a sense of community; however older adjacent programs do not support this intent. The missing residential presence throughout Kaka’ako Mauka could be due to the lack of public facilities such as supermarkets, and other services. New residential programs are not currently permitted in Kaka’ako Makai.

### ***Existing Industrial Programs***

Based on the existing body of knowledge, a majority of the Kaka’ako Mauka programs are due to be displaced by new residential and mixed-use programs. KAM owns a majority of the land on which these industrial programs currently reside. Some examples of the programs being displaced are Fisher Hawaii, Land Rover/ Jaguar Part Development, UFC Gym, and Xerox Hawaii. There has not been any information released on where these programs will relocate or how they will fit into the new urban fabric.



Figure 16: Existing Green Places  
Source: Heidi Suan, University of Hawai'i at Mānoa

### ***Existing Green Places***

The main green places in the Kaka’ako and Ala Moana neighborhood districts are already considered major destinations for tourists and residents. Given its proximity and access to the water, Ala Moana Beach Park attracts a variety of users, including pedestrians and bicyclists. Despite its location along Ala Moana Boulevard there are still access issues from mauka properties. This is the case for all users, whether on foot, on bicycle, or in a vehicle.

Kaka’ako Waterfront Park, one of Oahu’s hidden gems, is also located on the waterfront, adjacent to Kewalo Basin Harbor. Local residents identify this spot as a place to picnic with the family or surf one of the breaks. Kaka’ako Waterfront Park is not visually connected to all programs within Kaka’ako Mauka, but this is not necessarily a bad thing.

The fact that both of these green places are located makai of the boulevard poses both risks and opportunities moving forward. Physically, both of the parks have the potential to act as buffers between the ocean and the adjacent neighborhoods for anticipated sea level rises.

### ***Existing Water Features***

Kewalo Basin Harbor is located makai of Ala Moana Boulevard within the Kaka’ako neighborhood district. Originally it fell under the jurisdiction of the state DOT Harbors Division, but in 2009 it was passed into the hands of the HCDA. Kewalo Basin is a mixed-use harbor for commercial and recreational vessels.

### **Existing Risks: Sea Level Rise, Groundwater Inundation, Erosion, and Coastal Disasters**

Because Ala Moana Boulevard and its adjacent neighborhoods and green places are so close to the ocean, and some of this area is even built on landfill spaces taken from the ocean, we need to consider not only what is happening above ground, but also what conditions exist below ground. Sea level rise (SLR) and ground water inundation (GWI) are two phenomena that will impact any built environment in the downtown, Kaka’ako, Ala Moana, and Waikiki areas.

Earlier this year, Dolan Eversole of the University of Hawai‘i (UH) Sea Grant presented *Climate Change & Sea Level Rise* at the American Institute of Architects (AIA) Honolulu. He shared that in the last twenty years, the UH Sea Grant has recorded ten of the hottest years ever documented. He went on to explain that all of the world’s coastal areas are at risk, however Hawai‘i is not considered one of the worst-case scenarios. Experts have come up with a set of SLR projections and recommend city planners use these in city design and development plans. Eversole explained that a one-foot rise may be planned for by 2050 for Hawai‘i, and a three-foot rise by 2100.<sup>30</sup>

The sea level does not rise uniformly throughout the world; however, all coastal communities are at risk of some changes. The rising of sea levels can cause erosion and flooding in low-lying areas that aren’t prepared or protected. In coastal cities such as Honolulu, without preparation, something as simple as having a higher-than-normal high tide can cause the storm drains to back up and spill out onto the streets. SLR around the globe is caused by thermal expansion of the ocean followed by the melting of the arctic ice sheet.<sup>31</sup>

GWFI can be seen as an extension of SLR, in Honolulu. Over time, as the sea level rises, sea water spills into the fresh water table causing it to also rise, and eventually, the water table will spill out above the land’s surface in low-lying coastal areas. The process is slow and will not happen in a uniform way; some areas will experience more flooding than others, depending on the topography. Inundated areas will become covered with brackish water, a mixture of salt, fresh water, and occasionally excess sediment from underground.<sup>32</sup>

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<sup>30</sup> Eversole, Dolan. “Climate Change and Sea Level Rise.” Presentation, AIA Honolulu, Honolulu, February 5<sup>th</sup>, 2014.

<sup>31</sup> Ibid.

<sup>32</sup> Charles H. Fletcher and Kolja Rotzoll, “Assessment of groundwater inundation as a consequence of sea-level rise,” *Nature Climate Change* (2012): (Accessed February 18th, 2013).

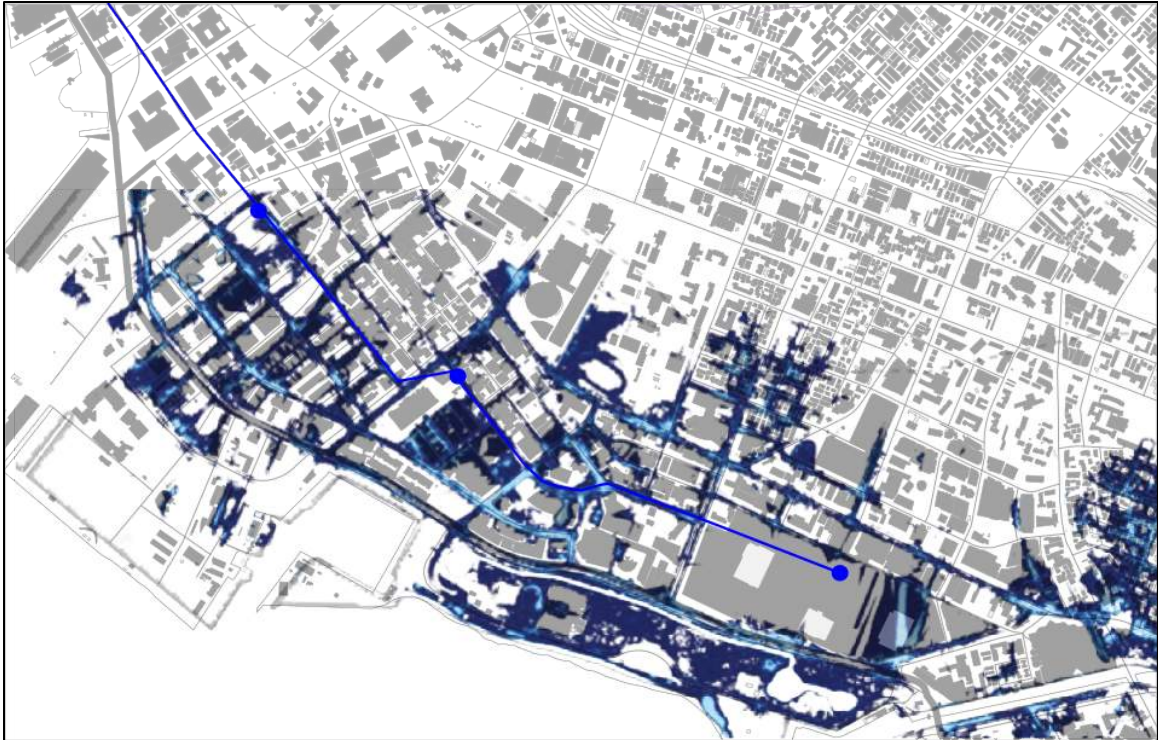


Figure 17: Total Inundated Areas due to SLR and GWI

Source: Fletcher, Rotzoll 2013 and Heidi Suan, University of Hawai'i at Mānoa

In urban Honolulu, GWI is more of a threat than SLR and will require more complicated solutions. According to Eversole, 58% of flooding in Honolulu will be a result of GWI. If nothing is done, undeveloped areas such as Kaka'ako will likely become swamped in standing pools of brackish water that experts believe would require expensive long-term solutions to mitigate, such as constantly-running underground pumps. There are a great deal of solutions and case studies that offer advice for adaptation and prevention; these ideas will be examined further on.<sup>33</sup>

Erosion is another devastating process that needs to be taken into consideration for all coastal developments - in this case, those planned for Ala Moana Beach Park and Waikiki. Beach erosion occurs when waves and currents remove sand from an existing beach system. Over time, the loss of sand causes the shoreline to recede and become

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<sup>33</sup> Eversole, Dolan. "Climate Change and Sea Level Rise." Presentation, AIA Honolulu, Honolulu, February 5<sup>th</sup>, 2014

lower in elevation (USGS)<sup>34</sup>. Like SLR, erosion is not uniform throughout the world. Pacific islands and archipelagos have a wide variety of geological origins, ages, sizes, and elevations, all of which are important factors in determining environmental impacts such as wind and wave patterns.<sup>35</sup> Shorelines are dynamic; change is driven by the need to maintain equilibrium among all systems.<sup>36</sup>

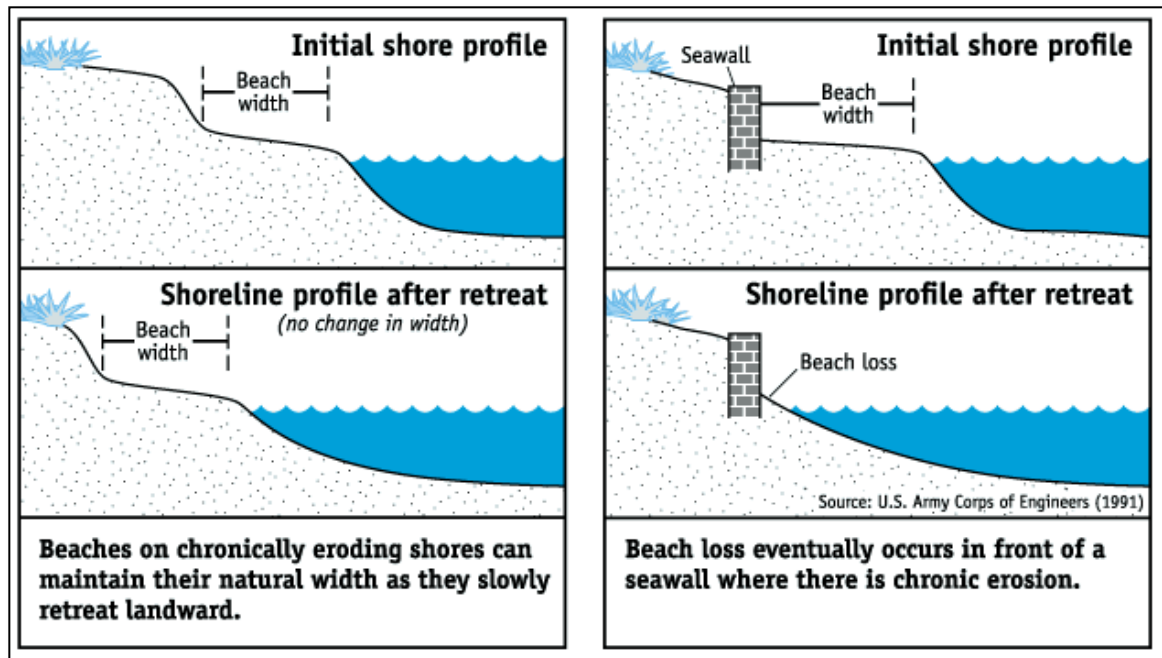


Figure 18: Seawalls and Beach Loss  
Source: Fletcher, University of Hawai‘i

Coastal or shoreline hardening is the most common approach used to deal with erosion; it involves building a physical structure along the shoreline. Typical hardening structures are seawalls, groins, and bulkheads. According to the Hawaii Coastal Erosion website, however, coastal armoring exacerbates the extent of the erosion and typically results in the need for even more seawalls.

<sup>34</sup> USGS Science for a changing world . "Coastal Change Hazards: Hurricanes and Extreme Storms." USGS Science for a changing world . <http://coastal.er.usgs.gov/hurricanes/coastal-change/beach-erosion.php> (accessed October 1, 2014).

<sup>35</sup> Gillie, Richard. "Causes of Coastal Erosion in Pacific Island Nations." *Journal of Coast Research* 24, Special Issue- Island States at Risk: Global Climate Change, Development and Population (Fall 1997): 173-204. P. 175

<sup>36</sup> Eversole, Dolan. "Climate Change and Sea Level Rise." Presentation, AIA Honolulu, Honolulu, February 5<sup>th</sup>, 2014



Soft armoring is an alternative to coastal hardening. Examples of soft armoring are beach nourishment and dune construction, which are temporary and require more maintenance. Other “soft” alternatives are coastal area planning efforts, such as zoning, and shoreline setbacks. It is important to note that these efforts are only successful with the participation of both state and city and county parties.



Figure 19 (left): Hard Armoring (seawall) at Lanikai

Figure 20 (right): Soft Armoring (dunes) at Kamaole County Beach Park, Maui

Source: University of Hawai‘i Sea Grant

It is vital that both state and city and county officials work together to preserve and protect all aspects of Ala Moana Beach Park. A closer look at both the history and current developments of Waikiki Beach’s shoreline offers a number of relevant lessons concerning SLR, erosion, and costal disasters.

Waikiki Beach is considered both a major destination and the main attraction for tourists coming to Oahu. Waikiki is developed to its physical capacity and its tourism industry continues to prosper as the backbone of Honolulu’s economy. Because of this, serious efforts have been made to protect its key asset, the beach. Maintaining the neighborhood’s shoreline and beach access has always been of interest and concern for all involved parties, including public, private, state, and city and county. Despite individual agendas, coastal disasters would affect everyone and impact all interests.

Today, Waikiki beach is narrow and shallow; with a limestone bedrock approximately two feet mean lower low water. The term *mean lower low water* (MLLW) is a coastal term used to describe the average of the lower low water height



of each tidal day. According to Robert L. Wiegel in his article, “Waikiki Beach, Oahu, Hawaii: History of its transformation from a natural to an urban shore,” the first manmade encroachment onto the beach happened in the late 1800s with some homes and small hotels. At this time, seawalls, groins, and several piers were also constructed. In the 1920s, the Natatorium, the Ala Wai Canal, and the Ala Wai Yacht Harbor were built. Offshore construction activities began in 1909. Sand, coral, and rock were dredged from the reef to create channels along the shore and out to the ocean, and the debris was used to fill portions of the wetlands at Fort DeRussy. In 1913, additional dredging was completed on the reef and today, a number of channels, basins, and ponds remain, which have “caused changes in wave and current action, and in the transport and deposition of sand and silt.”<sup>37</sup>

Kuhio Beach and Kapiolani Park are examples of beach nourishment projects; Ala Moana Beach and Fort DeRussy Beach are examples of constructed beaches.<sup>38</sup> Waikiki Beach suffers from chronic erosion and over time has become more prone to flooding in the event of coastal disasters. Experts report that most Hawai‘i beaches are chronically eroding and that the exacerbated condition is directly related to inappropriate coastal developments such as seawalls and shoreline hardening (Conger, Eversole, and Lemmo). Possible design alternatives for dealing with the projected SLR are urban wetlands and adaptable or floodable development. These options will be discussed in more detail in Chapter six.

Moving forward, seawalls should no longer be considered a viable solution for dealing with SLR, especially at sites as sensitive as Ala Moana Beach Park. Given that the park is a constructed beach and abuts Kewalo Beach Harbor and Magic Island, both of which are examples of hard armoring, the State needs to take special precautions when deciding how to maintain the health of the beach and shore. Likewise, the City and County needs to consider carefully where new developments are placed and how to move forward adapting for the anticipated rise in sea level.

For the purposes of this project, it is important to understand the division of control in the applicable areas. The State has jurisdiction and is responsible for lands

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<sup>37</sup> Ibid.

<sup>38</sup> Ibid.

seaward of the shoreline, or the area inundated by waves; the City and County has jurisdiction and is responsible for areas landward of the shoreline (including coastal dunes that share sand with the beach). As part of the DOT Highway Division, Ala Moana Boulevard falls under the jurisdiction of the State. Finally, all developments happening outside of the ROW fall under the jurisdiction of the City and County DPP and the HCDA.



Figure 21 (left): Example of State vs. County Jurisdiction of the Coastal Zone  
Figure 22 (right): Example of distinction between beach loss and costal erosion  
Source: Hawaii's Developing Beach Management Program (Dolan N. Eversole, Chris L. Conger, Sam J. Lemmo)

## Moving Forward

There are many destinations and successful gathering spaces in the Kak‘ako and Ala Moana neighborhoods. Despite Ala Moana Boulevard’s success in moving vehicular traffic, the boulevard remains, for pedestrians and bicyclists, a physical “barrier” that in places is undesirable to cross. Programs along the makai side of the boulevard are considered major destinations, with the main attraction being the beach. I would argue that there are gaps in the current programming along the makai side and that there is potential to re-define and improve how the programs interact with pedestrians. Though some may not agree, I would argue that the edge of Ala Moana Beach Park is weak, undefined, and lacks pedestrian facilities such as benches. The same argument can be made for the existing programs along the mauka side of the boulevard, which is currently

the parking structure for the shopping mall. According to the HCDA classification system, these spaces are pedestrian tolerant environments.

Moving forward, it is important to consider how the new developments will interact with these existing conditions. We must also keep in mind the limitations jurisdiction. Chapter four reviews all new plans and projects for these neighborhoods over the next fifteen years. We need to also understand what programs are being proposed for the neighborhood and especially along the boulevard. Chapter five focuses on analyzing how these developments address or do not address pedestrians and their ability to access these programs.

## CHAPTER 4: MOVING FORWARD, NEW DEVELOPMENT

### Stakeholders and Decision Makers

The following organization charts were instrumental in clarifying who are the key decision makers for Ala Moana Boulevard, street design, and the developments planned for each neighborhood district.

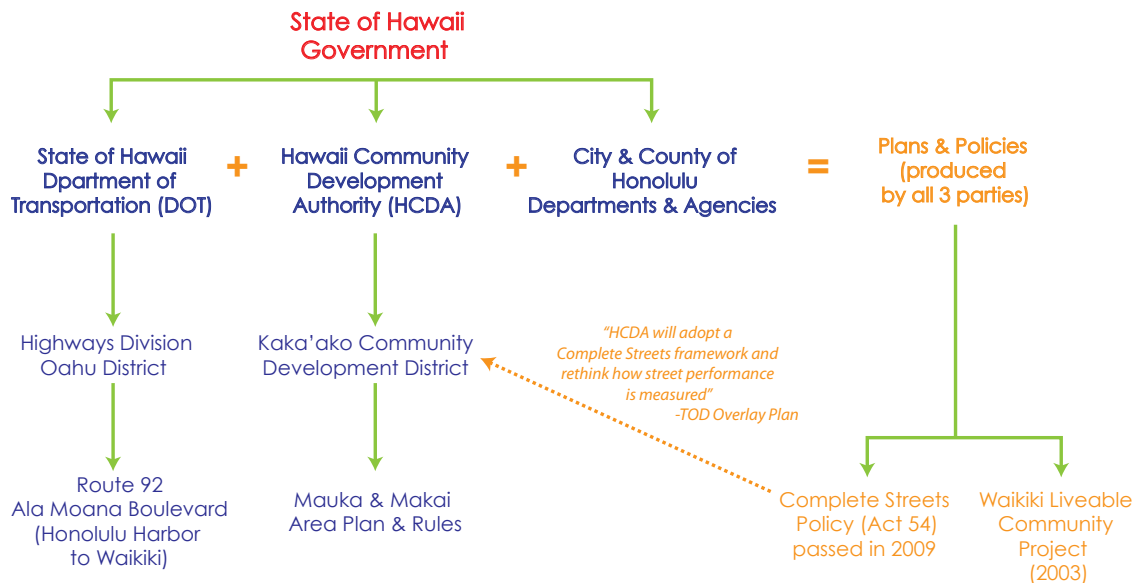


Figure 23: Ala Moana Boulevard and Street Jurisdiction

Source: Heidi Suan, University of Hawai'i at Mānoa

As previously mentioned, Ala Moana Boulevard, or Highway 92, is managed under the state DOT Highway Division. In the following sections, I will discuss a number of plans and policies regarding Honolulu street design that have been proposed and implemented. The *Complete Streets Policy* and Waikiki Liveable Community Project (WLCP) are successful examples of collaboration efforts between both state and city and county agencies to improve the streets in urban Honolulu. The HCDA has already begun to implement a Complete Streets framework for Kaka'ako Mauka. However, despite the state DOT's participation, these policies do not technically apply to Ala Moana Boulevard and its function as a major arterial.

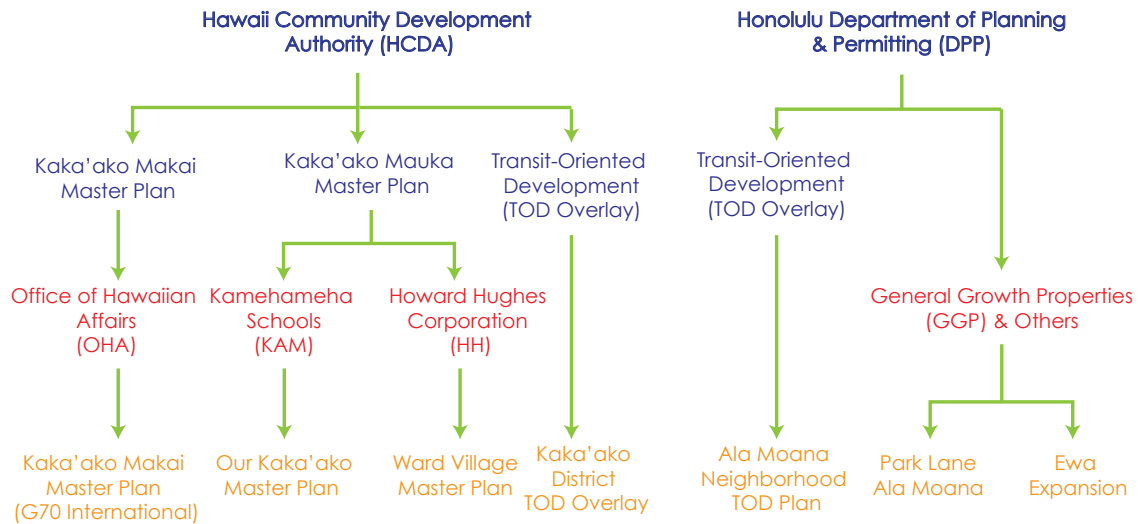


Figure 24: Developers and Master Plans  
Source: Heidi Suan, University of Hawai‘i at Mānoa

In 2011, the HCDA reissued revised master plans for both Kaka’ako Mauka and Kaka’ako Makai. These addendums remain the most current guidelines by which landowners and developers must abide. Today, there are two major developers in Kaka’ako Mauka, KAM and the Howard Hughes Corporation (from now on referred to as Howard Hughes), and one major developer in Kaka’ako Makai, the Office of Hawaiian Affairs (OHA). As you leave Downtown and head east along Ala Moana Boulevard, you come to the Ala Moana Shopping Center, which is owned by GGP, one of the main developers in the Ala Moana neighborhood district. This neighborhood district does not fall under the jurisdiction of the HCDA, but rather that of the city and county DPP. While both governing parties have their own sets of rules and regulations, these requirements have been re-interpreted and executed differently by each developer.

Layered over all new developments are the TOD plans produced for both the Kaka’ako and Ala Moana neighborhood districts. There are three rail stations planned to serve these neighborhood districts, including the Civic Center Stop, the Kaka’ako Stop, and the recently added Ala Moana Stop.



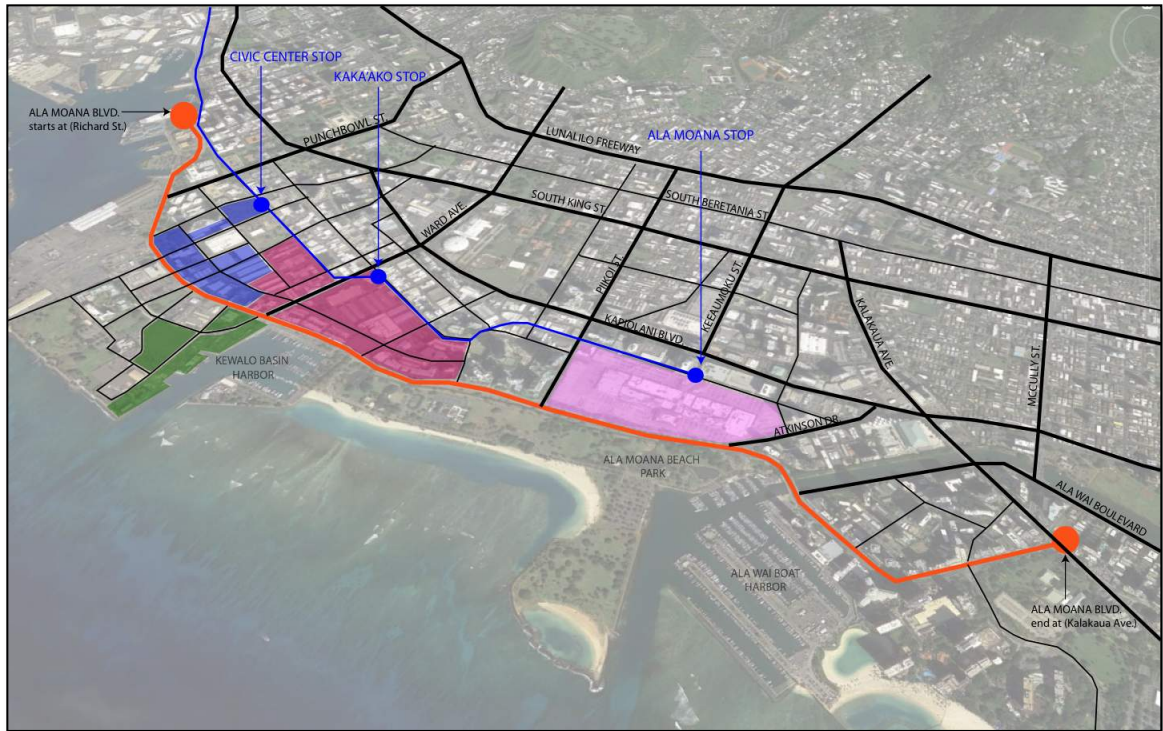


Figure 25: Major Developers  
Source: Heidi Suan, University of Hawai'i at Mānoa

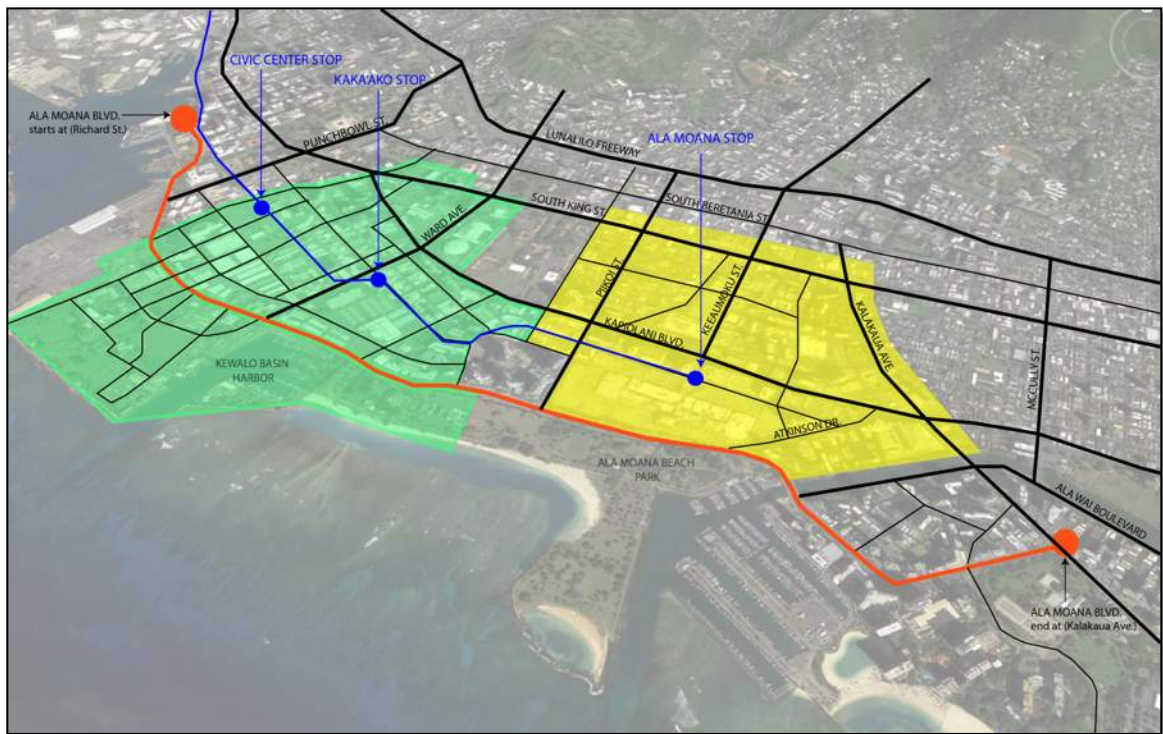


Figure 26: Transit-Oriented Development Districts  
Source: Heidi Suan, University of Hawai'i at Mānoa

## Existing Policies, Rules, and Regulations

### *HCDA Mauka Area Plan and Mauka Area Rules*

In chapter three, I laid out the HCDA's street design standards provided to developers from the *Kaka'ako Mauka Area Plan*. To review, Ala Moana Boulevard is a promenade boulevard with six lanes and a one-hundred-foot ROW, which includes a minimum fifteen-foot pedestrian realm.

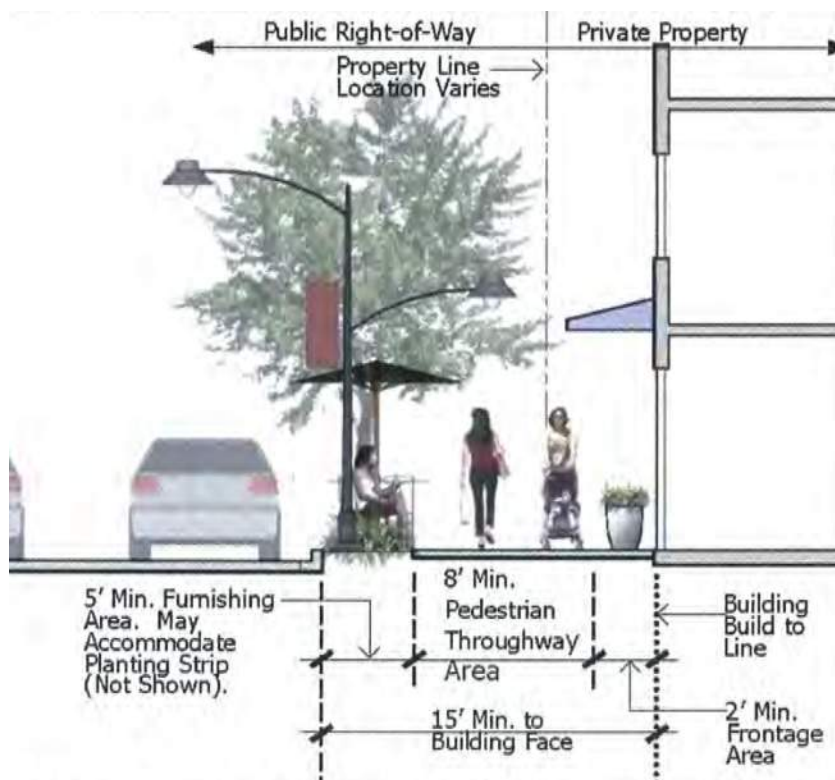


Figure 27: Pedestrian Facilities

Source: Hawaii Community Development Authority, Mauka Master Plan (2011)

Not to be confused with building setbacks and height regulations, the figure above shows minimum requirements for different aspects of a pedestrian realm. Notice a minimum eight-foot pedestrian throughway and required furnishing and frontage areas. This, along with other requirements, is published in the *Kaka'ako Mauka Area Plan*. However, developers may demonstrate their own interpretations of how to organize this space.

Notice the location of the property line, which ultimately separates the public ROW with private property. As the figure also indicates, the location of the property line varies from parcel to parcel, and thus plays a role in how the spaces within the pedestrian realm are organized.

Within Kaka’ako Mauka, all buildings along the boulevard need to be in compliance with the most updated rules, guidelines, and restrictions provided at the time. The master plans provided by KAM and Howard Hughes are both in compliance with the June 2005 *Mauka Area Plan* and June 2005 *Mauka Area Rules*. Listed below are some of the rules that concern Ala Moana Boulevard programs and how they may interact physically and spatially with the boulevard.

Mauka Area Rules concerning height regulations:

- Rule 15-22-116 Building Height: *400 feet maximum above finish grade plus 18 feet additional for rooftop elements.*
- Rule 15-22-120 Platform (podium) Height: *45-foot height limit*

Mauka Area Rules concerning building setbacks and view corridors:

- Rule 15-22-117 View Corridor Setback (Tower): *75 feet from the property line fronting Ala Moana Boulevard*
- Rule 15-22-117 View Corridor Setback (Podium): View corridor setbacks for developments along Ala Moana Boulevard shall respect a 15-foot setback with a podium height of 20 feet, then a 1:1 slope, ultimately resulting in a maximum podium height of 45 feet.

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While the master plans of both KAM and Howard Hughes demonstrate an understanding of and compliance with these requirements, developers are allowed to submit a request for modifications at the plan development permit level. It is my understanding that both developers have put in a request to increase the minimum podium height limit from forty-five to sixty-five feet. At this time, I do not have confirmation that this request was approved.

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<sup>39</sup> Hawaii Community Development Authority. “Plans/Rules: Mauka Area Plan.” *Hawaii.gov*. <http://dbedt.hawaii.gov/hcda/plans-rules/>. (Accessed January 9, 2014).



## Transit-Oriented Development Plans

### *Kaka’ako Transit-Oriented Development Plan*



Figure 28: The Collection by Alexander and Baldwin

Figure 29: 690 Pohukaina Street Rendering

Source: (28) Shimogawa 2013, (29) Cruz 2012

In May 2013, the HCDA issued a *TOD Overlay Plan* for the Kaka’ako neighborhood district in anticipation of the completion of the new rail line. Setting the foundation for a new mass transit community, the HCDA just recently completed the first mixed-use development project in Kaka’ako Mauka. This development, 690 Pohukaina Street, is located next to the proposed Civic Center rail station and, when completed, will offer a mixture of residential options, reserve housing, and commercial and civic spaces.<sup>40</sup> Also, KAM and Alexander & Baldwin have announced details regarding the sale of units in another mixed-use project, The Collection, located at the old CompUSA property along Ala Moana Boulevard; construction on the project commenced late in 2014.

One unique feature the Kaka’ako *TOD Overlay Plan* will bring to the neighborhood is the “park once” concept that would allow residents and visitors to park once and then use a combination of alternative transportation methods to navigate the neighborhood. Currently, the HCDA is working in collaboration with KAM and other

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<sup>40</sup> Hawaii Community Development Authority. “Plans/Rules: Transit Oriented Development Overlay Plan.” *Hawaii.gov*. <http://dbedt.hawaii.gov/hcda/plans-rules/>. (Accessed January 10, 2014).

developers to strategically locate potential sites for these park once stations. Ideally, these facilities will serve visitors and businesses during the day and residents at night.

### ***Ala Moana Neighborhood Transit-Oriented Development Plan***

In 2014, the City and County released their *Ala Moana Neighborhood TOD Plan*. The Ala Moana rail station, to be located on the mauka side of the Ala Moana Shopping Center near Keeaumoku Street, is the final destination of the twenty-one-stop rail system.

Unlike Kaka’ako, the Ala Moana neighborhood district is one of the most urban and complex neighborhoods along the rail corridor.<sup>41</sup> The TOD plan is “intended to serve as a guide for future public improvements and private investments.”<sup>42</sup> Despite inconsistencies between subdistricts, a majority of these neighborhoods have their own characteristics that set them each apart as a destination within the Ala Moana neighborhood district.

Ideally, residents and visitors who come to Ala Moana would not only have a variety of places to visit, but would be able to move between programs in a safe and pleasant manner. In addition to the Ala Moana Shopping Center, other major destinations in the neighborhood are the Convention Center and Ala Moana Beach Park, both of which are currently difficult to access on foot or bicycle.

One important aspect of the TOD plan is the proposal to reactivate existing mauka-makai corridors and the intersections where they meet Ala Moana Boulevard. Despite its flaws, the Ala Moana /Atkinson intersection serves as a major gateway for visitors and residents accessing adjacent programs, such as the park and retail shops. Some of the major proposed changes for this intersection include adding additional crosswalks to support heavy pedestrian travel and narrowing travel lanes and restriping in order to accommodate for new a new bike lane along Atkinson Drive and along Ala Moana Boulevard.<sup>43</sup>

The Pi’ikoi/Ala Moana intersection is another major gateway with Pi’ikoi Street running along the edge of the Ala Moana neighborhood district. The intersection

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<sup>41</sup> City and County of Honolulu. “Ala Moana Neighborhood Transit-Oriented Development Plan.” <http://www.honolulu.gov/tod/neighborhood-tod-plans/dpp-tod-alamoana.html>. (Accessed December 21, 2014).

<sup>42</sup> Ibid.

<sup>43</sup> Ibid.

presents a visual first impression for visitors heading to Waikiki from the airport. In addition to new crosswalks and narrowing travel lanes to accommodate for a new bike lane along Ala Moana Boulevard, a new bike lane is proposed for Piʻikoi Street that would also extend makai into Ala Moana Beach Park.

The narrowing of the travel lanes along Ala Moana Boulevard presents more than one opportunity; not only will it rededicate part of the existing street to bicyclists, but it will also encourage cars to slow down when passing through this section of the neighborhood. Between Piʻikoi and Atkinson Streets, there are two signalized intersections that allow vehicles to enter the mall and pedestrians to cross the boulevard. In the TOD plan, both intersections will be used to anchor two new mauka-makai connections through the shopping mall, one aligning with the rail station and one aligning with Keeaumoku Street.

## **Master Plans by Developers**

### ***General Growth Properties, Park Lane Condominiums***

Prior to becoming the site of the world's largest open-air shopping center, the Ala Moana area was once a natural swampland with fishponds and taro patches. In 1884, fifty acres of swampland were put up for sale as unproductive land; in 1912, developer Walter F. Dillingham purchased this site for \$25,000.<sup>44</sup> At that time, Dillingham used the land as a dumping site for excess coral and debris from a nearby Dillingham dredging project. In 1948, Lowell Dillingham, Dillingham's son, announced the first plans to build a shopping center complex. Construction began in 1957 and the mall opened two years later with two stories and approximately eighty stores. In 1999, the Ala Moana Shopping Center was purchased by GGP.

In 2013, construction began on a new residential development, ONE Ala Moana, which sits on top of the Ala Moana Shopping Center's Nordstrom parking garage. Howard Hughes partnered with the MacNaughton Group and the Kobayashi Group to build a residential development that could offer its residents a lifestyle of ultra-luxury and

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<sup>44</sup> Ala Moana Center. "Ala Moana Center Chronological Highlights." *Ala Moana Center.com*. <http://www.alamoanacenter.com/Center-Information/Press-Room.aspx>. (Accessed January 1, 2014).

convenience. ONE Ala Moana was completed last year, in 2014; it is twenty-three stories high and includes 206 new condominium units.



Figure 30: Ewa Expansion at Ala Moana Shopping Center  
Source: Ala Moana Shopping Center Website, Construction Updates (2015)

Just as construction was completed on ONE Ala Moana, GGP began construction on the Ewa Wing Expansion Project for Ala Moana Shopping Center. The expansion will add approximately 650,000 square feet of new retail, entertainment, and dining space, and will be anchored by a Bloomingdales department store.<sup>45</sup> This new construction is replacing the former Sears Department Store and Ewa parking structure near the Pi‘ikoi Street entrance. According to the Ala Moana Shopping Center’s website, as part of the expansion and to compensate for the demolition of the Ewa parking structure, 1,000 new parking spaces will be added when the project is complete. Construction is scheduled to be finished in 2015.<sup>46</sup>

A short distance away, construction has also begun on the Park Lane Ala Moana Condominium Complex. Located along Ala Moana Boulevard, this project will replace the existing Makai parking lot from Pi‘ikoi Street to Neiman Marcus. Similar to ONE Ala Moana, the project is a joint venture between GGP, the MacNaughton Group, and the Kobayashi Group. The goal again is to offer residents an ultra-luxury lifestyle.

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<sup>45</sup> Ibid.

<sup>46</sup> Ibid.

Park Lane Ala Moana will be a group of mid-rise buildings that will feature 215 new residences. According to the MacNaughton Group, residences will range from 900 square-foot studios to 6,000 square-foot four-bedroom condominiums.<sup>47</sup> Most residences will have a private pool and garden, and all residences are promised an ocean view.

According to the plans provided by developers, the project will sit on a podium of two to three floors of parking, the majority of which is dedicated to commercial use to support the shopping center and compensate for the displaced stalls. It is my understanding that residential parking will be located behind units and will be accessed through a Piʻikoi Street entrance, while commercial parking will be accessed from Ala Moana Boulevard. Current plans do not include a plan for commercial or retail venues at the street level; however, the current TOD plan suggests that the proposed mauka-makai connection with the rail station is integrated into the Park Lane Ala Moana circulation plans.

### ***Ala Moana Beach Park***

Across the way, makai of Ala Moana Boulevard, is the landmark Ala Moana Beach Park. Both the park and Magic Island are constructed landscapes. Soon after Dillingham purchased the fifty acres, a channel was dredged through the coral reef along the shoreline in order to connect Ala Wai Boat Harbor and the Kewalo Basin.<sup>48</sup> The dumping of debris and waste on this site continued until 1930, when the State received financial support from President Franklin D. Roosevelt to clean up the area so that it could become a community park. The State completed all improvements in 1934 when the park was officially donated to the community; they called it Moana Park. The name of the park was changed to Ala Moana in 1947.<sup>49</sup>

In 1960, the east end of the dredged channel in front of Ala Moana Beach Park was closed in preparation for a major landfill project, the creation of a thirty-acre peninsula. According to the existing body of knowledge, the peninsula, which was called

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<sup>47</sup> The Macnaughton Group. "Park Lane Ala Moana in 2016." <http://www.tmgohawaii.com/portfolios/30/detail>. (Accessed January 27, 2015).

<sup>48</sup> Wiegel, Robert L. *Waikiki Beach, Oahu, Hawaii: History of its Transformation from a Natural to an Urban shore*. Berkeley: University of California, Department of Civil and Environmental Engineering, 2008.

<sup>49</sup> Ala Moana Center. "Ala Moana Center Chronological Highlights." *Ala Moana Center.com*. <http://www.alamoanacenter.com/Center-Information/Press-Room.aspx>. (Accessed January 1, 2014).

Magic Island, was built for a resort development, which was to include two more constructed islands.<sup>50</sup> When the decision was made not to proceed with the resort, the peninsula became a part of Ala Moana Beach Park. The peninsula's official name is Aina Moana; however, most still call it Magic Island.

While there are no current developments planned for Ala Moana Beach Park, the anticipated changes proposed in the *Ala Moana Neighborhood TOD Plan* would connect, in a more effective manner, the Ala Moana Shopping Center to Ala Moana Beach Park. To further supplement the *Ala Moana Neighborhood TOD Plan* efforts, the *Oahu Bike Plan* is also looking to connect destinations, both mauka-makai and Ewa-Diamond Head.

### ***Kamehameha Schools, Our Kaka'ako Master Plan***

In 2008, KAM submitted their fifteen-year master plan for the redevelopment of nine blocks within Kaka'ako Mauka; in 2009, Our Kaka'ako Master Plan was approved by the HCDA.

According to sources back in 2009, construction was scheduled to be completed in phases within Kaka'ako Mauka in coordination with the new rail station and other TOD plan developments. The Our Kaka'ako master plan has put special consideration into how to conveniently integrate parking programs into the podium design. The plan proposes six new residential towers, four of which will be located along Ala Moana Boulevard. Cross-sections provided by developers show that each tower will sit on a parking podium and will hold a combination of residential and mixed-use commercial programs. Commercial programs would be located at the street level and residential programs on the upper floors.

Howard Hughes plans to build townhomes along the boulevard in the new Ward Village development, while KAM proposes mixed-use commercial programs. Compared with these, I would argue that Our Kaka'ako supports pedestrian activity along the boulevard more effectively. This is also evident in the proposed street section that provides a forty-foot building setback, essentially allowing for a generous pedestrian realm.

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<sup>50</sup> Wiegel, Robert L. *Waikiki Beach, Oahu, Hawaii: History of its Transformation from a Natural to an Urban shore*. Berkeley: University of California, Department of Civil and Environmental Engineering, 2008.



Since 2009, Our Kaka’ako has demonstrated a commitment to incorporating Complete Streets principles and concepts of walkability and gathering into their developments; these efforts continue to be validated by a number of successful activities such as Eat the Street, Honolulu Night Market, and now Pow Wow Hawaii. *Gathering* is another aspect of the Our Kaka’ako Master Plan that specifically addresses the pedestrian experience. According to circulation and landscaping plans, Auahi and Cooke Streets will be the designated primary retail and pedestrian corridors.

As in any master plan development, changes are proposed and plans are updated accordingly. As the renderings below indicate, Our Kaka’ako has proposed the implementation of a new gathering space and attraction along Ala Moana Boulevard called SALT.

Named after the paakai (Hawaiian for “salt”) ponds that once dotted the low-lying wetlands of this area, SALT at Our Kakaako is Honolulu’s epicenter for local culture, food, shopping and innovative events.<sup>51</sup>

Developers describe SALT as a “dynamic city block designed for exploration and engagement.” SALT will “embody the urban, island culture of the emerging Our Kakaako neighborhood.”<sup>52</sup> Located between Coral Street and Keawe Street, SALT in many ways strives to do the same thing as the Ward Village Green Gateway Park.<sup>53</sup>



Figure 31: Rendering from 2009 Our Kaka’ako Master Plan

Figure 32: Rendering from Our Kaka’ako website today (February 2015)

Source(s): HCDA (2011), Our Kaka’ako (2014)

<sup>51</sup> Our Kaka’ako. “What is SALT?” [http://www.ourkakaako.com/urban\\_development/salt-at-our-kakaako](http://www.ourkakaako.com/urban_development/salt-at-our-kakaako). (Accessed January 6’2015).

<sup>52</sup> Ibid.

<sup>53</sup> Ibid.

### *Howard Hughes, Ward Village*

GGP developed the *Ward Neighborhood Master Plan* and submitted it to the HCDA who approved it in 2008. In 2010, Howard Hughes took ownership of all parcels and changed direction with the project, changing its name to Ward Village. Construction is scheduled to happen in phases. Phase One commenced last year (2014) and includes the development of three residential towers, one of which is along the boulevard, and a new sales and information center at the old IBM building. Phase Two will begin shortly after and will include two mixed-use towers, both along the boulevard, a new Whole Foods Market, and a one-acre park that will be part of what developers are calling The Green Gateway.<sup>54</sup> It has not yet been confirmed whether the remainder of the project will be part of a Phase Three or whether it will be broken down into a series of smaller phases; however, the plan in Figure 33 below suggests that the spaces have already been planned and designed.

The *Ward Village Master Plan* makes up eight blocks of Kaka’ako Mauka and overlaps with the Kaka’ako Rail transit station to be located near Ward Avenue. Land Blocks 2, 4, and part of 5 lie along Ala Moana Boulevard.



Figure 33: Ward Village Phasing Plan

Phase One (red), Phase Two (blue), and Future Phases (green)

Sources: Howard Hughes Permit Set Drawings submitted to HCDA (HCDA website)

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<sup>54</sup> Howard Hughes, The Howard Hughes Corporation. "Ward Village." <http://www.howardhughes.com/properties/future-developments/ward-village.html>. (Accessed January 6, 2015).



According to Howard Hughes, Ward Village is a sixty-acre mixed-use property with more than 4,000 new residential units and over one million square feet of retail and commercial space planned.<sup>55</sup> While details have yet to be published for all upcoming developments, drawings have been shared for three of the towers proposed for Land Block 2 along Ala Moana Boulevard.

Waiea, located at the corner of Kamakee and Auahi Streets, will consist of a twenty-seven-story luxury residential tower, a parking garage, and a five-story townhome complex with villas that will face Ala Moana Boulevard. The townhomes will be set back some fifty feet to accommodate for a private deck space or yard and landscaping elements to buffer residents from street activity. The lobby and entry for tower residents is set along Kamakee Street while all commercial programs will face Auahi Street. Similar to Our Kaka’ako, parking programs come secondary and will not occupy the street level footprint.



Figure 34: Ward Village Gateway  
Source: Howard Hughes (2015)

Land Block 2, Project 2 (Phase Two) will be located next door to Waiea, between Auahi Street and Ala Moana Boulevard. The most recent drawings provided by the HCDA show two new mixed-use towers with additional townhouse programs fronting Ala Moana Boulevard. The space between both towers will be left open for pedestrian use and transformed into a green place that will eventually connect up mauka programs to

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<sup>55</sup> The Howard Hughes Corporation. “The Howard Hughes Corporation Unveils a “Forward” vision for Ward Village.” *The Howard Hughes Corporation*. <http://www.howardhughes.com/component/content/article/131.html>. (Accessed March 14, 2014).

the four-acre Green Gateway Park proposed for Land Block 1. It is my understanding that the Green Gateway Park will serve as a multi-purpose gathering place for pedestrians within the neighborhood and that the open space plan was intended to keep a visual connection between mauka and makai programs.<sup>56</sup>

According to Pacific Business News, Howard Hughes would like Ward Village to be “a new face for the neighborhood” with a “distinctively different character;” one way this is accomplished is by drastically setting back new developments from the boulevard.<sup>57</sup> In the most recent site plan, the townhomes are set back between forty-four and sixty-one feet from the property line; however, it appears that this is also to accommodate private front yards, which will be elevated and buffered by a retaining wall and landscaping elements. While I understand the need for privacy, these programs will most likely not interact with the rest of the activities happening along the boulevard.

### ***Kaka’ako Makai - Office of Hawaiian Affairs (MVE Pacific)***

Back in 2006, in an attempt to develop Kaka’ako Makai, Alexander & Baldwin presented a proposal with numerous residential developments in Kaka’ako Makai. At that time, the HCDA had reviewed and approved the development. However, the proposal was protested by the public and eventually rejected by the state House. The HCDA was eventually found guilty of disregarding public input and, according to Bill 2555 passed by the Legislature, was prohibited from selling or assigning lands in Kaka’ako and from approving any plan or proposal for residential development in Kaka’ako Makai.<sup>58</sup>

In 2007, in an effort to engage with the community, the HCDA created the Community Planning Advisory Council (CPAC), an advisory group that would represent the communities voice at upcoming workshops and meetings. A third party, MVE

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<sup>56</sup> Howard Hughes, The Howard Hughes Corporation. “Ward Village.” <http://www.howardhughes.com/properties/future-developments/ward-village.html>. (Accessed January 6, 2015).

<sup>57</sup> Shimogawa, Duane. "Howard Hughes Corp. outlines revisions to Ward Centers master plan - Pacific Business News." *Pacific Business News*. <http://www.bizjournals.com/pacific/news/2012/10/10/howard-hughes-corp-outlines-revisions.html>. (Accessed May 15, 2014).

<sup>58</sup> Yerton, Stewart, and BJ Reyes. "House Opposes Kakaako Waterfront Project." House Opposes Kakaako Waterfront Project." *StarBulletin.com*. <http://archives.starbulletin.com/2006/03/10/business/story01.html>. (Accessed January 5, 2014).

Pacific, a planning and architectural firm, was also brought on board to work with the HCDA and CPAC to reach one comprehensive master plan. In 2011, the HCDA adopted the new master plan for the Kaka’ako Makai area, and today it remains the most updated plan. In March of 2012, Senate Bill 2783 (SB2783) was passed which transferred ownership of ten land parcels in Kaka’ako Makai to the Office of Hawaiian Affairs (OHA) to resolve the land dispute with the State.<sup>59</sup>

The Kaka’ako Waterfront Park was not one of the ten transferred parcels and thus remains under the jurisdiction of the HCDA. Today, an ongoing debate continues regarding residential development in Kaka’ako Makai, along with how to deal with other drawbacks and limitations such as SLR and height restrictions.

## **Other Projects and Plans to Consider**

### ***Waikiki Livable Community Project***

Published in 2003 by the City and County, *The Waikiki Livable Community Project* (WLCP) was a federally funded study conducted to “examine how Waikiki’s system of public streets, sidewalks, and rights-of-way are used, and how the system might be improved.”<sup>60</sup> The *WLCP* laid out five vision statements developed for vital transportation corridors within Waikiki. The first four focused on changes for Kuhio Avenue, Ala Wai Boulevard, Kalakaua Avenue, and Ala Moana Boulevard, while the last focused on smaller improvements to be made to mauka-makai streets.

Ala Moana Boulevard was identified as “a major entry and exit route for Waikiki and...the primary entry route for visitors arriving from the airport and harbor.”<sup>61</sup> Because of its importance, visionaries named Ala Moana Boulevard the Green Gateway, emphasizing the role it plays in a visitor’s first impression of Waikiki and neighborhoods along the boulevard. The study also identified Ala Moana Boulevard as “a major pedestrian route for visitors and residents walking between Waikiki and Ala Moana

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<sup>59</sup> Mangieri, Gina. "State Offers OHA Large Portion of Kakaako Waterfront to Settle \$200 Million Payment." *KHON2 News*. <http://www.khon2.com/news/local/story/State-offers-OHA-large-portion-of-Kakaako/Ua2O8dGF40y0E0RatcU0FQ.csp>. (Accessed December 3, 2013).

<sup>60</sup> City and County of Honolulu. "Transportation Services: Waikiki Livable Community Project." *Honolulu.gov*. <http://www.docstoc.com/docs/116787360/EXECUTIVE-SUMMARY>. (Accessed December 4, 2013).

<sup>61</sup> Ibid.

Shopping Center,” as well as to other nearby neighborhoods, including Ward and Kaka’ako.<sup>62</sup>

### ***The Oahu Bike Plan***

Honolulu currently ranks 14<sup>th</sup> among the country’s largest cities for bicycle commuting, and has a vibrant bike culture with a resurgence of interest at both ends of the age continuum.<sup>63</sup>

In August 2012, the Honolulu Department of Transportation Services (DTS) published the *Oahu Bike Plan* for implementation throughout the entire island of Oahu. Built off of the *Honolulu Bicycle Master Plan* (1999), the major intent of this plan was to ensure that the proposed rail transit stations were considered and integrated into the bikeway network.

According to the DTS, the plan looks to address the five E’s of transportation planning - encouragement, engineering, education, enforcement, and evaluation - all vital to achieving the end goal, a bicycle-friendly island.<sup>64</sup>

Oahu currently has about 132 miles of on-and-off bikeway facilities and this includes all state, city, federal, and private properties. Over the next twenty to thirty years, an additional 559 miles will be added to Oahu’s transportation system.<sup>65</sup> According to the plan, three types of bikeway facilities will be considered for Oahu streets and are listed below:

- **Paths:** Bicycle paths or shared-use paths are off-street facilities that are graded separately for safety and clarity. Typically constructed of concrete or asphalt, paths range anywhere from ten to twelve feet in width. According to the DTS, paths are great for families and beginner riders. An example of a bike path is Ala Moana Beach Park.

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<sup>62</sup> Ibid.

<sup>63</sup> City and County of Honolulu. “Oahu Bike Plan: A Bicycle Master Plan.” <http://www.honolulu.gov/bicycle/oahubikeplan.html>. (Accessed January 21, 2015).

<sup>64</sup> Ibid.

<sup>65</sup> Ibid.

- **Lanes:** Unlike paths, bicycle lanes are on-street facilities that are delineated from vehicle traffic by a wide, white line and are typically four to six feet in width. An example of a bike lane is Young Street.
- **Routes:** Bicycle routes are also on-street facilities with posted street signage. Ideally, routes are along the wider outside traffic lane (fourteen feet) so that cars have enough space to safely pass by. According to the DTS, it is typical in urban Honolulu that the curb lane width is not sufficient for a vehicle to pass without crossing the centerline or crossing into the adjacent travel lane; in these situations, sharrows, or shared lane pavement markings, are added to alert motorists of the likelihood of encountering bicyclists. An example of a sharrow can be found on Kalakaua Avenue.<sup>66</sup>

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<sup>66</sup> Ibid.

### Shared Use Path

Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow minimized.



Figure 35: Shared Use Path

Sources: Oahu Bike Plan: A Bicycle Master Plan, 2012

### Bike Lane

Provides a striped lane for one-way bike travel on a street or highway.

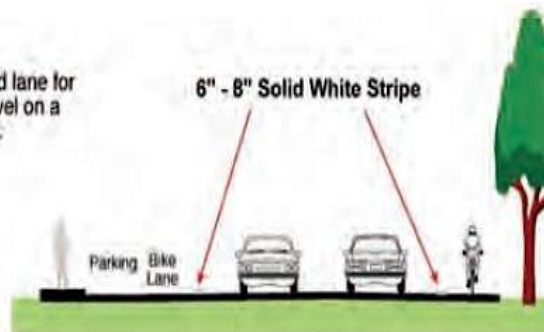


Figure 36: Bike Lane

Sources: Oahu Bike Plan: A Bicycle Master Plan, 2012

### Bike Route/ Signed Shared Roadway

Provides for shared use with motor vehicle traffic, typically on lower volume roadways.



Bike Route Sign

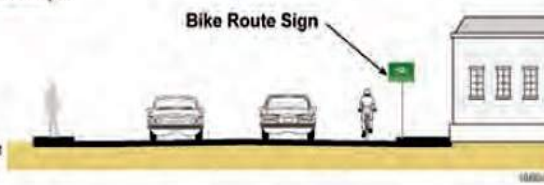


Figure 37: Bike Route/Signed Shared Roadway

Sources: Oahu Bike Plan: A Bicycle Master Plan, 2012

## CHAPTER 5: ANALYSIS

### Site

In the previous chapters, I examined different aspects of Ala Moana Boulevard and how the boulevard relates to its adjacent neighborhood districts. I found that there are multiple layers of conditions that tie back to a framework of existing programming, risks, and policies regarding jurisdiction. In chapter three, I discovered that there are dualities to consider when addressing pedestrian spaces along Ala Moana Boulevard. Pedestrians only interact with programs if access is permitted. In some situations, access is permitted but programs do not foster interaction or interest. Moving forward, there is a set of new conditions brought on by new developments, policies, and plans that will introduce changes throughout the area.

Chapter four revealed that a majority of Kaka’ako Mauka’s current programs are set to be displaced by a variety of new developments, some of which have not yet been determined. There is very little change slated for Kaka’ako Makai; this is because a majority of these programs belong to state or city and county agencies.

Working to improving Honolulu’s streets, state and city and county agencies are working to incorporate Honolulu’s *Complete Streets Policy* into the most updated master plans and rules. Alongside these efforts, The *Oahu Bike Plan* and *Ala Moana Neighborhood TOD Plan*, which strives to improve mauka-makai connections and boulevard crossing for all users, are also being developed and implemented.

Moving forward, in this chapter, I will focus my analysis on the areas of Ala Moana Boulevard that currently represent major issues concerning the pedestrian experience. With an understanding of the spatial relationships between the boulevard and its adjacent programs, I will analyze a series of cross-sections that cut through the major proposed developments within the area. The first two cross-sections concern the proposed Park Lane Ala Moana Condominiums and Ala Moana Beach Park. The third cross-section concerns the Howard Hughes mixed-use residential development and the Kewalo Basin Harbor. These sections represent a variety of conditions with regard to new programs on the mauka side of the boulevard and existing programs on the makai side. More importantly these sections have the potential to reveal spatial challenges and opportunities for further improvements to the pedestrian realm.





Figure 38: Site  
Source: Heidi Suan, University of Hawaii at Manoa

### Analysis: Ala Moana Cross-Section

All developments within the Ala Moana cross-section are under the jurisdiction of the city and county DPP. Park Lane Ala Moana is a new residential development located on the mauka side of the boulevard. Although the primary program is residential, the street level program will be commercial parking, similar to the rest of the shopping center. In relation to the boulevard, proposals by GGP suggest that the new commercial parking structure will be setback approximately twenty-three feet from the curb, making it fifteen feet from the property line. Note that the eight feet on the other side of the property line pertains to the minimum pedestrian throughway or sidewalk required according to the *Revised Ordinances of Honolulu*. Though it is not required by the DPP, the HCDA recommends that pedestrian walkways have some sort of buffer especially along major vehicular streets such as Ala Moana Boulevard. According to renderings, however, it



appears that this will not be the case and the sidewalk will remain along the curb of the boulevard.

Ala Moana Beach Park is an existing program located directly across from Park Lane on the makai side of the boulevard. Although program options vary throughout the park (beach, tennis courts, etc.), there are limited features in this particular area and cross-section. The pedestrian realm on this side of the boulevard is defined by two existing conditions, a two-foot wall buffering pedestrians from the boulevard and an existing drainage canal that is offset some twenty feet from the sidewalk (see cross-section). These conditions span the entire width of the park, from Kamakee Street to Atkinson Drive, but the open space for pedestrian movement varies according to the location of the canal. To investigate further, I made a second cross-section in an area where space for pedestrian movement appeared limited. This second cross-section confirmed that the space between the two-foot wall and the canal was less than fifteen feet, which leaves just enough room for a sidewalk but no other pedestrian facilities.

As previously stated, Ala Moana Boulevard is a large physical component that can be experienced as a barrier between the mauka and makai programs. These cross-sections serve the purpose of investigating spatial relationships between individual street components (lane width, median and sidewalk dimensions) and how they relate to the street standards discussed in chapters two and three.

When assessed using the roadway section established by the HCDA, the current lane width and median dimensions of Ala Moana Boulevard either meet or exceed the minimum requirements. The median, which is only required to be seven feet wide, is actually eighteen feet wide along the entire span of the Ala Moana Shopping Center. The cross-section also verifies that the minimum requirement for six travel lanes, eleven feet each, is met and maintained. According to the HCDA, the minimum fifteen-foot pedestrian realm is also considered part of the one-hundred-foot ROW, however it appears that neither landowner nor developer put effort into accommodating pedestrians because the pedestrian realm does not extend across the property line. This is the case for both mauka and makai sides, where pedestrians must walk alongside vehicular traffic, are restricted by the minimum dimensions, and have no buffer from the traffic. The parking structure and drainage canal are dissociated programs that have no business with

pedestrians traveling along the boulevard. I would even argue that both of these programs act as physical barriers between pedestrians and the true destinations, the beach and the shopping center.

While it appears that this cross-section will remain a pedestrian tolerant environment for now, spatial conditions are present which would allow re-allocating some space to the pedestrian realm. Areas within this section of Ala Moana Beach Park also have the spatial capacity to be reprogrammed in a way that addresses both the canal as a barrier and the pedestrian realm. These options will be examined in more detail in chapter six.

### **Analysis: Kewalo Basin Cross-Section**

Two blocks west of the Ala Moana Shopping Center is the third cross-section, which cuts through the *Ward Village Master Plan* and Kewalo Basin Harbor. Unlike Ala Moana, all developments within this cross-section fall under the jurisdiction of the HCDA and the *Mauka Area Plan* and *Mauka Area Rules*.

While Howard Hughes has yet to give it a formal name, Land Block 2, Project 2, as described in chapter four, is one of Ward Village's mixed-use projects and consists of two towers (currently referenced as Ewa and Diamond Head) with residential and commercial programs along the boulevard and Auahi Street. This particular cross-section is cut through the Ewa tower and proposed townhomes, also called villas, will be located along the boulevard. Howard Hughes uses the term *villa* in the marketing documents to describe the ground floor units that come with a private front yard overlooking Ala Moana Boulevard.

Construction documents submitted to the HCDA suggest that these townhomes will be setback forty-seven feet from the property line, however the front yard elements will account for approximately twenty feet of this open space, leaving only twenty-seven feet for circulation and landscaping. This is not necessarily a bad thing considering how the HCDA's *Mauka Area Rules* only require a fifteen-foot setback. As discussed in chapter four, these details are designed with the goal of creating a "new face for the neighborhood," something that is lacking in the planning efforts for Park Lane Ala Moana. Still, the HCDA's idea of a pedestrian realm seems to be misinterpreted by

developers once again. Site plans for this project indicate that the sidewalk is also located outside of the property line, again requiring pedestrians to walk along the boulevard.

The Kewalo Basin Harbor is an existing program located directly across the street from the proposed Ward Village townhomes and villas. In relation to mauka programs, the harbor property spans the entire block from Ward Avenue to Kamakee Street. Despite its convenient location, landowners fail to recognize the site's potential as a waterfront venue. The programs at this cross-section include surface parking with some temporary structures and kiosks for harbor vendors. Unlike Ala Moana Beach Park, the harbor has two specific functions, that is, to serve as a departure point and berthing for private and commercial charters. Residents and visitors accessing these commercial charters use this area as the designated park-and-ride, which explains the placement of a large parking lot fronting the harbor and Ala Moana Boulevard.

According to the cross-section, it is unclear how pedestrians should access the water, or if access is even permitted. There is currently one designated path for pedestrians and it does not take pedestrians through the site. The existing sidewalk is located along the boulevard outside the property line and is five to six feet wide; this does not meet the HCDA's minimum requirement of eight feet for a pedestrian throughway.

Shade is also a major component missing from this cross-section along the makai side of the boulevard. Between the boulevard and the paved parking lot, pedestrians walking on the sidewalk are subject to impacts of heat islanding. *Heat Islanding* is a term used to describe the increase of temperatures in an area that is directly related to the surrounding physical environment. According to the group *EnvironmentLA*, heat islanding is caused by "a lack of plant material and the traditional use of dark colored surfaces such as asphalt."<sup>67</sup> Heat islanding is common in urban areas like Kaka'ako. Another example is the Ala Moana Shopping Center. Moving forward, these issues can be addressed by adding more trees for shade and/or eliminating the footprint of asphalt surfaces; if these issues are left unaddressed, it can make being outdoors undesirable.

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<sup>67</sup> City of Los Angeles. "EnvironmentLA: Urban Heat Islands/Cool Communities." <http://environmentla.com/programs/urbanheatislands.htm>. (Accessed January 3, 2015)

Another reason to consider the possibility of eliminating these surfaces is the importance of reducing surface runoff. *Surface* or *urban runoff* is a term used to describe a source of water pollution generated from impervious surfaces such as roads and parking lots. Basically, water running off of these surfaces picks up a number of pollutants and other foreign chemicals that are eventually discharged into our waterways such as streams, canals, and in this case the ocean. The drainage canal at Ala Moana Beach Park faces issues in dealing with the water quality of its runoff. The concern with the Kewalo Basin site is the lack of pervious surfaces to filter or treat runoff before it spills over into the harbor.

Unlike the Ala Moana cross-section, there doesn't appear to be any additional space at the roadway section between Ward Avenue and Kamakee Street. The section currently shows six through lanes at eleven feet wide, a seven-foot left-turn lane, and a striped median in lieu of a curbed median. This is currently not problematic; however, there are potential concerns for access once the mauka programs are completed. As described in chapter four, the new Green Gateway Park will be an additional green space and more importantly a gateway to the neighborhood from Ala Moana Boulevard. Site plans for these two mixed-use projects indicate that a crosswalk will be installed at the gateway; however we also know that this is not within the developer's jurisdiction. Moving forward, a big part of access to and from mauka-makai programs along the boulevard is contingent on a crosswalk being installed at this location. Chapter six will discuss in further detail the challenges, options, and opportunities created with these developments.

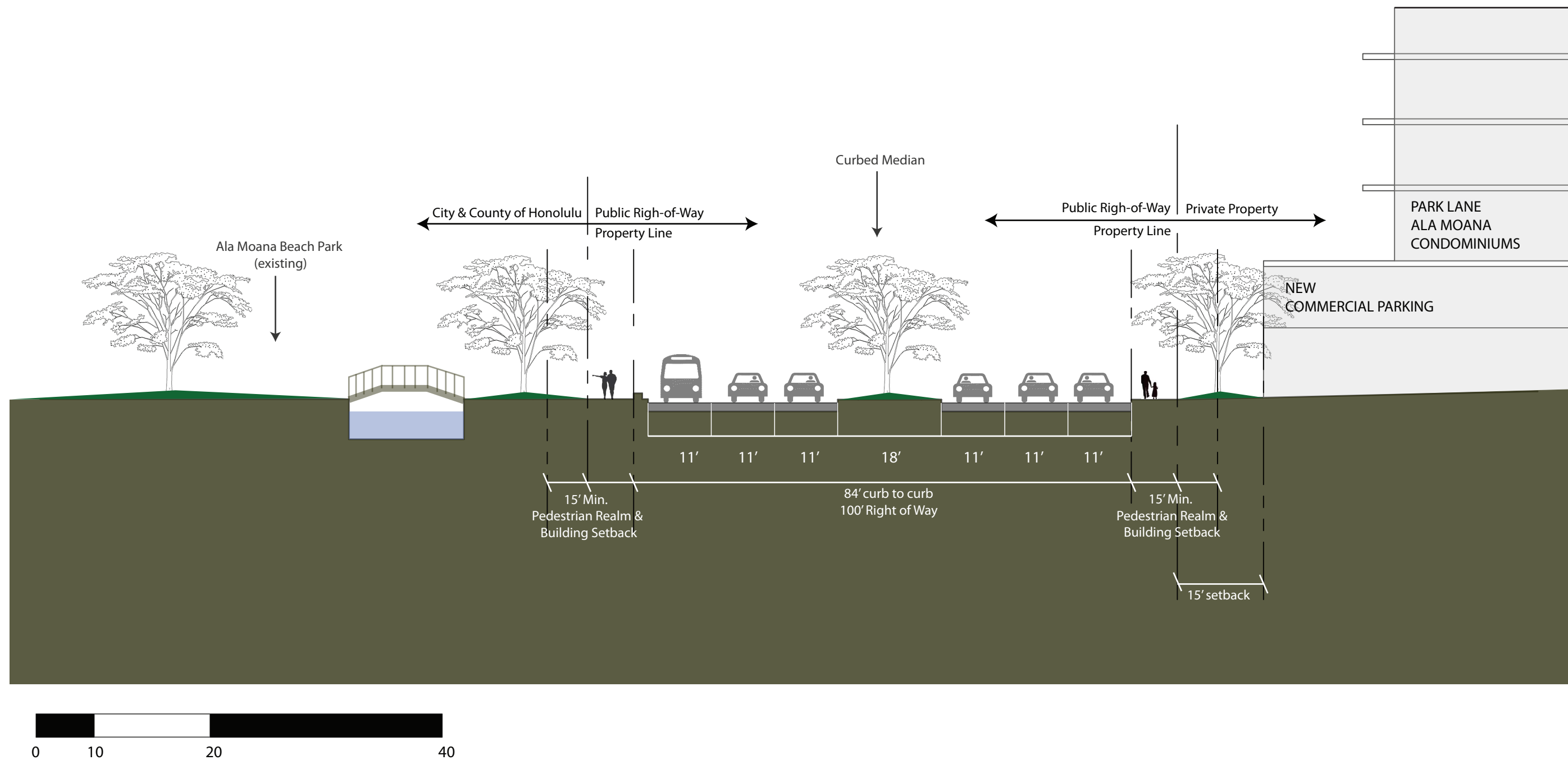


Figure 39: Ala Moana Beach Park & Ala Moana Shopping Center- Existing Street Conditions & Proposed Development  
Source: Heidi Suan, University of Hawaii at Manoa

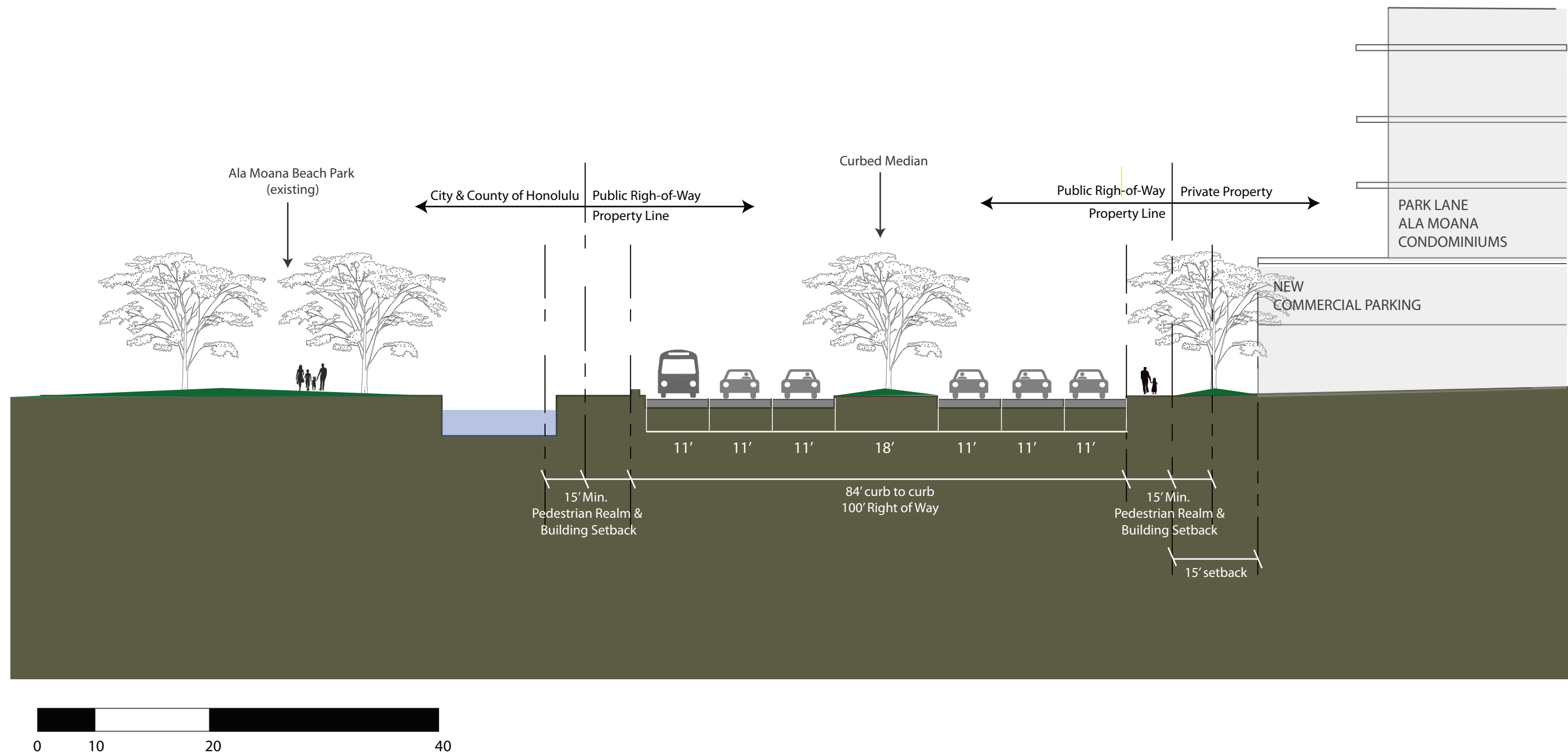


Figure 40: Ala Moana Beach Park & Ala Moana Shopping Center- Existing Street Conditions & Proposed Development  
 Source: Heidi Suan, University of Hawaii at Manoa

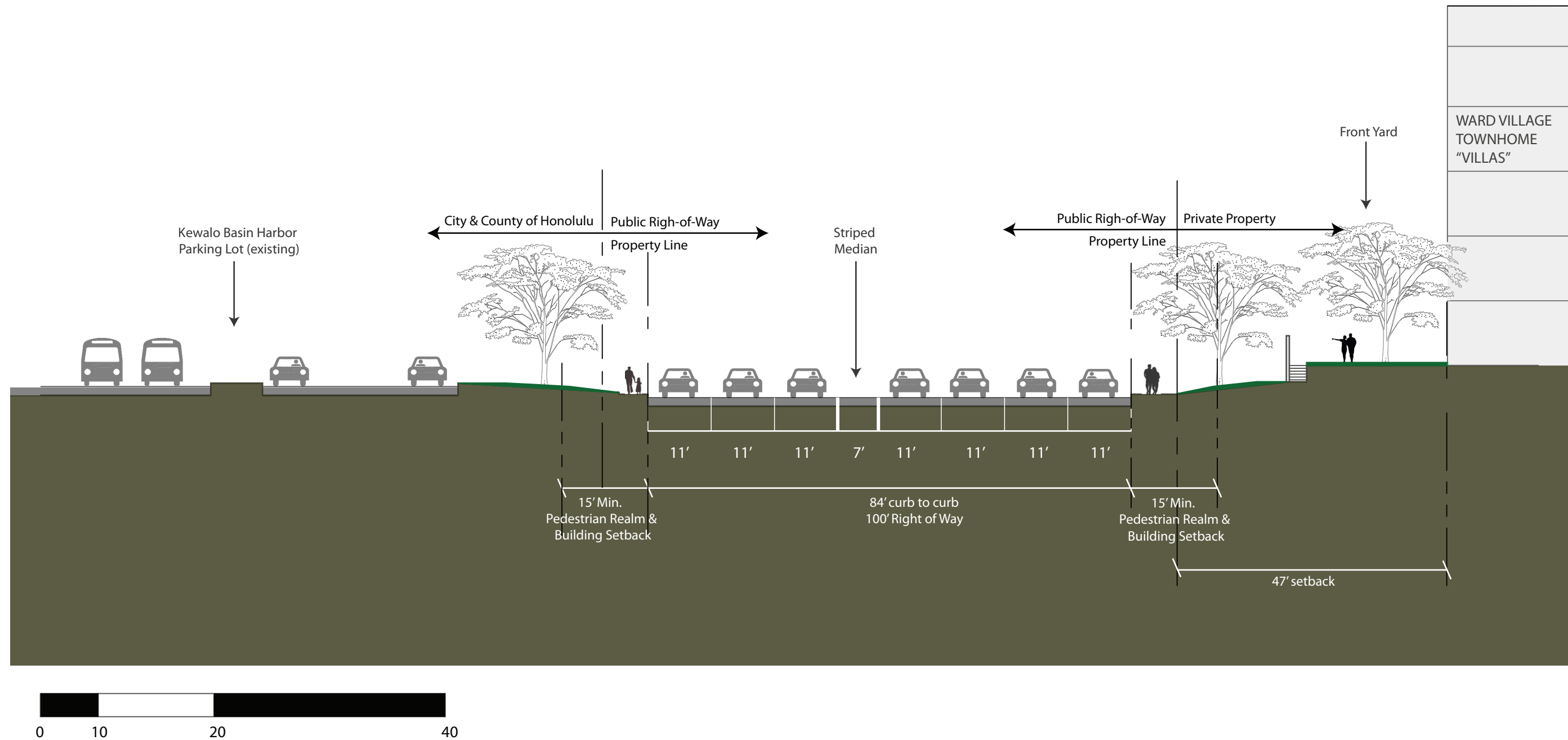


Figure 41: Kewalo Basin Harbor & Ward Village- Existing Street Conditions & Proposed Development  
Source: Heidi Suan, University of Hawaii at Manoa



## CHAPTER 6: OPPORTUNITIES FOR REDEFINING THE URBAN EDGE

The analyses of cross-sections in the previous chapter were instrumental in understanding the physical parameters and spatial relationships between the three separate entities (mauka/boulevard/makai) in a single cross-section of Ala Moana Boulevard. While each part clearly has its own role and agenda(s), it is in the best interest of all three that they are acquainted with and support one another.

Prior to moving forward, we need to recognize the opportunities that the coming changes, which have already begun to be put into action, offer. Two more recent efforts to seize this opportunity and improve the conditions along the boulevard are the *Ala Moana Neighborhood TOD Plan* and the *Oahu Bike Plan*, both of which address some of the issues discussed in chapter five. To gain an understanding of what is being proposed, each plan was layered over both sites and analyzed in relation to new and existing programs.

As discussed in chapter four, one of the main objectives of the *Ala Moana Neighborhood TOD Plan* is to redesign and improve all major intersection and crossing points along the boulevard; in this case, the Atkinson/Ala Moana and Pi‘ikoi/Ala Moana intersections will undergo the most modifications. These efforts are part of a bigger goal to strengthen the mauka-makai connection and establish safe crossings at the boulevard. If changes within the Ala Moana Shopping Center are happening simultaneously with these improvements, the plan then calls for two new mauka-makai connections that will cross through the shopping center to connect to Ala Moana Boulevard. One of these connections aligns with the location of the new rail station and the other with Keeaumoku Street and the shopping center’s center stage. While the plan only addresses areas that are within the TOD zone, some of these strategies can be applied to intersections for the Kewalo and Ward Village cross-section, including the Ward/Ala Moana and Kamakee/Ala Moana intersections.

The *Oahu Bike Plan* is an effort that strives to improve current street conditions for bicyclists by designating a place for them within the pedestrian realm. The current plan calls for a new network of bicycle facilities to be placed along major streets and corridors significant to each neighborhood. Between the two cross-sections analyzed,

there is only one existing bike path and that is located within Ala Moana Beach Park. The new plan calls for the installment of bicycle facilities along almost all streets within the Ala Moana and Kaka’ako neighborhood districts. Moving forward, bike lanes will be placed on Ala Moana Boulevard and Kamakee Street, while Pi’ikoi Street and Ward Avenue are going to be transformed into bike routes. The bike path in Ala Moana Beach Park will remain and eventually connect to the new bike path proposed for Kewalo Basin Harbor. Plans for the harbor show a path through the site and along the waterfront with the intent to intersect with Ilalo and Ahui Streets, and the Kaka’ako Waterfront Park.

As we look forward, the *Ala Moana Neighborhood TOD Plan* and the *Oahu Bike Plan* are first steps in redefining the ROW and the way this space is allocated among its different users. The responsibility of addressing programmatic issues in order to create better mauka-makai connections and improved crossing along Ala Moana Boulevard ultimately lands on the shoulders of the State, the City and County, and the developers who have properties along the boulevard.

### **Opportunities for Ala Moana**

Spatial constraints associated with new programming setbacks must be taken into consideration when developing improvements for the mauka realm. Moving forward, I am choosing to respect these setbacks because the developers along the boulevard are key stakeholders and play a major role in the decision-making process for the programs within this realm.

Despite these constraints, the *Ala Moana Neighborhood TOD Plan* is starting to pave the way for reallocating space throughout the existing ROW. In this plan, the City and County propose narrowing travel lanes along both sides of the boulevard in order to accommodate new bike lanes. According to the cross-section, Ala Moana Boulevard at this point is broken down into six travel lanes (eleven feet each) and a median (eighteen feet). This is a positive condition, spacious compared to other stretches of the boulevard.

Assuming that such modification are being seriously considered, I would argue that the additional ROW gained from these lanes should go towards widening the mauka pedestrian realm along the edge of the Ala Moana Shopping Center and the Park Lane project. If each interior lane can be narrowed down to ten feet, this allows four feet to be

reallocated to one side of the boulevard. In the following cross-section, I am proposing adding the additional four feet to the makai realm, making the new setback twenty-seven feet between curb and building. An eight-foot sidewalk with the additional four feet almost meets the fifteen-foot pedestrian realm HCDA recommendation without cutting into the proposed landscaping for the Park Lane Ala Moana parking structure.

Before proposing improvements to the makai realm, we must establish an attitude toward the existing components that define the space. The drainage canal running through Ala Moana Beach Park is primarily programmed for storm water catchment and basically collects runoff. Because of its proximity to the boulevard, it acts as a barrier between users along the sidewalk and programs within the rest of the park. Parts of the canal are considered an eyesore, especially when the water level is low and debris collected from runoff shows close to the surface. Because there are few spatial constraints within the park itself, the canal condition may be improved by opening it up and getting rid of its urban edge.

In the following cross-section I am proposing to re-program the canal so that it functions along the lines of a wetland. Urban wetlands are sustainable and offer ecological benefits to a site such as improving water quality by filtering runoff from nearby programs. Another role of urban wetlands is storm water management and flood prevention, which was part of the canal's original function. Unlike a man-made canal, urban wetlands are organic living systems constantly in flux, making them interesting and attractive to users passing by. According to the proposed site plan and cross-section, there are opportunities for pedestrians to interact with this new program at different levels throughout the site; however, the overall intent is to foster interest so that this area can become a pedestrian supportive environment.

Taking a step back, instead of placing a bike lane along the mauka realm, I propose in this cross-section a two-way bike path within the makai realm. This would be a more formal promenade for bicyclists, lined with planting strips and trees. This would also serve as a buffer between the pedestrian walkway and vehicular traffic along the boulevard. This same application will be carried over to the proposed Kewalo Basin cross-section and site plan, which as explained above, will have a new bike path.

## **Opportunities for Kewalo Basin**

As previously discussed, the *Oahu Bike Plan* will connect Ala Moana Beach Park to the Kaka’ako Waterfront Park through the Kewalo Basin site. The site, as we discussed in chapter five, is made up of the harbor and a parking lot. Like many other sections along the boulevard, this site is considered a pedestrian tolerant environment.

When developing a plan for improvements to the makai realm at the Kewalo Basin cross-section, I propose that the boat harbor activities be relocated to the Ala Wai Boat Harbor on the eastern side of Ala Moana Beach Park. I would argue that this site is currently underperforming both environmentally and programmatically. As discussed in chapter five, site issues such as heat islanding and runoff harbor pollution work against the site and devalue its potential as a waterfront venue. Unlike Park Lane Ala Moana, this site is not a parking structure, but rather an open space parking lot along the boulevard. In an urban environment such as Honolulu, open space like this is uncommon. This site has a special additional feature: it offers users access to the water.

As previously discussed, urban wetlands can offer an abundance of ecological benefits to urban sites such as the Kewalo Basin Harbor. The proposed cross-section and site plan implements components of an urban wetland along the Ewa and Diamond Head edges. Similar to the proposal for Ala Moana Beach Park, the intent here is to buffer surface runoff from nearby programs and to soften the physical edge of the harbor that once prevented people from accessing the water. The plan leaves the mauka edge of the harbor intact and replaces the current parking lot with foliage and other pervious surfaces such as grass. Seeing how the harbor is part of an urban neighborhood (Kaka’ako), it is important that part of this existing edge is preserved and integrated into the new urban fabric.

When proposing a new program for this site, the opportunity exists to address risks related to SLR and other coastal disasters. In light of this, I am suggesting that all programs are appropriate and will not exacerbate the ecological state of the site. I propose that the new primary role of the Kewalo Basin is to be a living edge that works to counteract impacts caused by adjacent programs, in this case, the new residential community across the street. While the goal is to protect the ocean from contamination, we are also looking to mitigate the impacts of inundation and flooding on new programs.

For this to work, all programs need to be in agreement and support of this specific function.

In developing the proposal for improvements to the mauka realm, I am once again choosing to respect the setbacks and programs set by the developer, which in this case is Howard Hughes. Taking into account the front yard components of the new development, there is approximately twenty-seven feet of open space from the existing curb to the retaining wall that defines the front yard spaces. Because this is a generous dimension, there is no need to consider seeking additional space by narrowing traffic lanes. The proposed cross-section shows a raised walkway platform that would allow for a swale beneath it to capture and treat runoff from the boulevard.

From the material examined so far, it appears that the programs on the mauka side of the boulevard are not built with the intent of fostering pedestrian activity and thus many developers are relying on makai programs to compensate for this. Site plan drawings by Howard Hughes, which have not yet been made public, indicate that a crosswalk will be installed mid-way between Kamakee Street and Ward Avenue. Here again the responsibility and pressure shifts to the State and the HCDA to provide the appropriate pedestrian facilities along the makai side.

## **Conclusion**

This project was born when I first moved to Kaka‘ako and became increasingly interested in the accessibility of the neighborhood to pedestrians and bicyclists. The ability to comfortably access major destinations by walking or biking is ideal, and was part of the marketing pitch for the neighborhood, a place to live, work, and play.

However, this promise is still only on paper; ideas are still forthcoming and have not yet been realized. Current residents like myself are living under a variety of conditions, some less than ideal, related to accessing adjacent programs and services within the neighborhood and along Ala Moana Boulevard. Chapter three focused on identifying these existing conditions and understanding their relevance to developments moving forward. A series of maps and research revealed discrepancies with existing programming that tied back to inconsistent planning efforts and individual agendas.

These issues are further exacerbated by the technicalities of jurisdiction and legislation that is left open for interpretation by developers.

According to the HCDA, pedestrian tolerant environments are areas where pedestrian travel and access to programs are permitted but programs themselves are not successful at attracting people. Ala Moana Boulevard and its mauka and makai programs fit the description of a pedestrian tolerant environment. Despite efforts on behalf of transportation agencies to improve street design, there is a duality of access and program that needs to be considered when addressing pedestrian spaces along Ala Moana Boulevard.

The cross-sections in chapter five were instrumental in understanding the spatial relationships between proposed developments along the mauka side of the boulevard and existing conditions of the boulevard and the makai realm. While respecting the technicalities of jurisdiction, we established that all three realms are interconnected and function as a single entity.



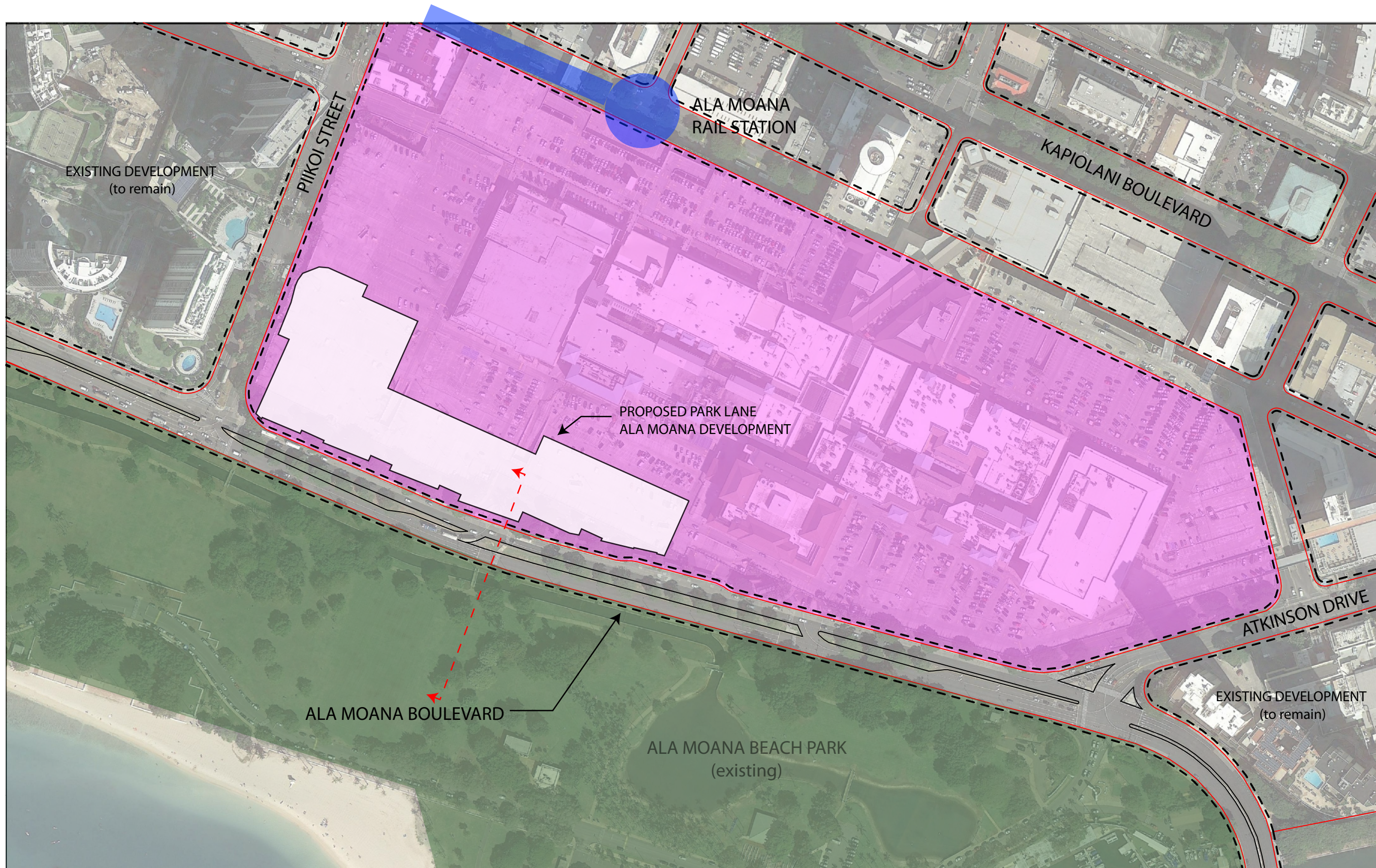
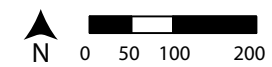


Figure 42: Ala Moana Shopping Center Proposed Development  
 Source: Heidi Suan, University of Hawaii at Manoa





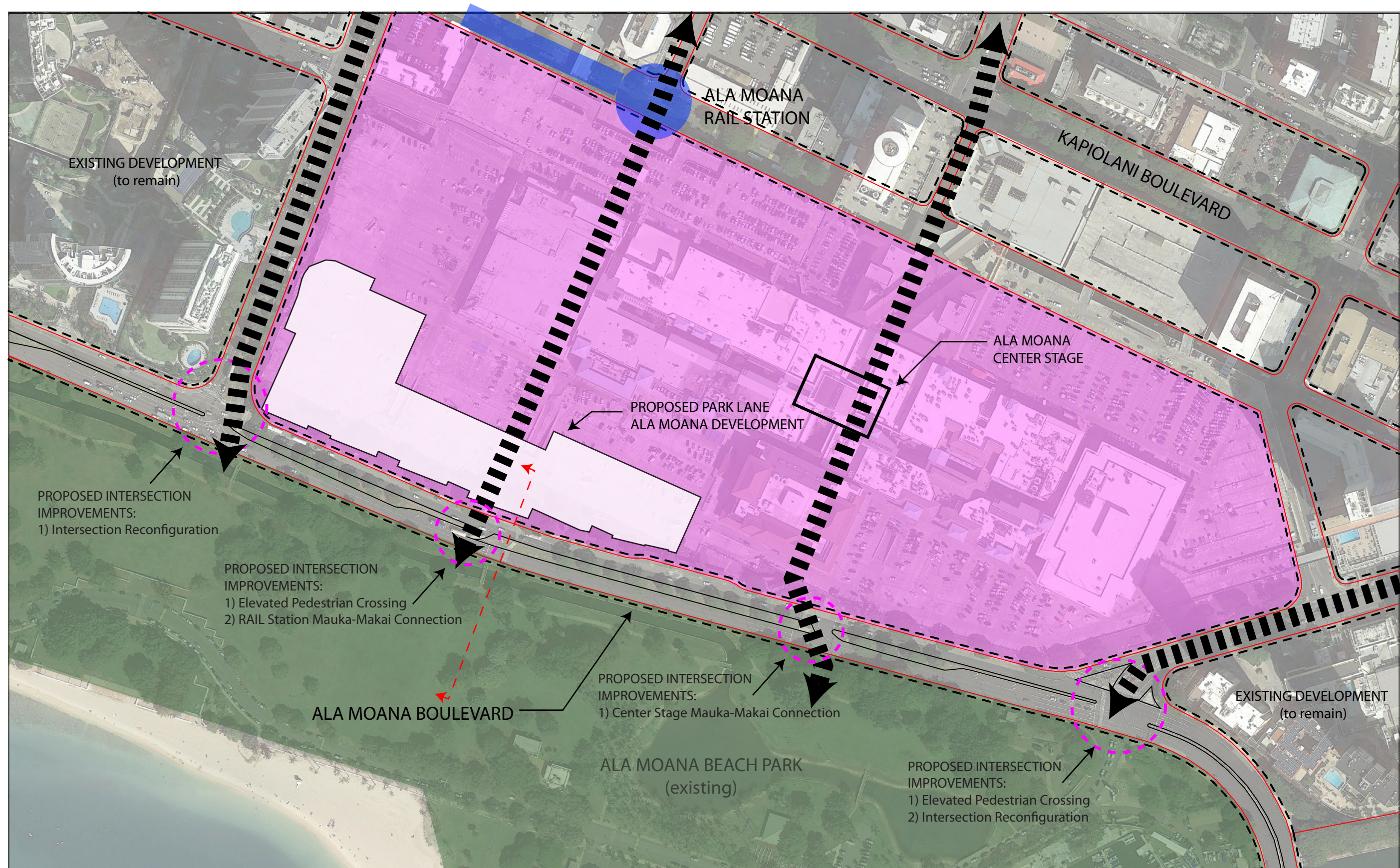


Figure 43: Ala Moana TOD Plans  
 Source: Heidi Suan, University of Hawaii at Manoa



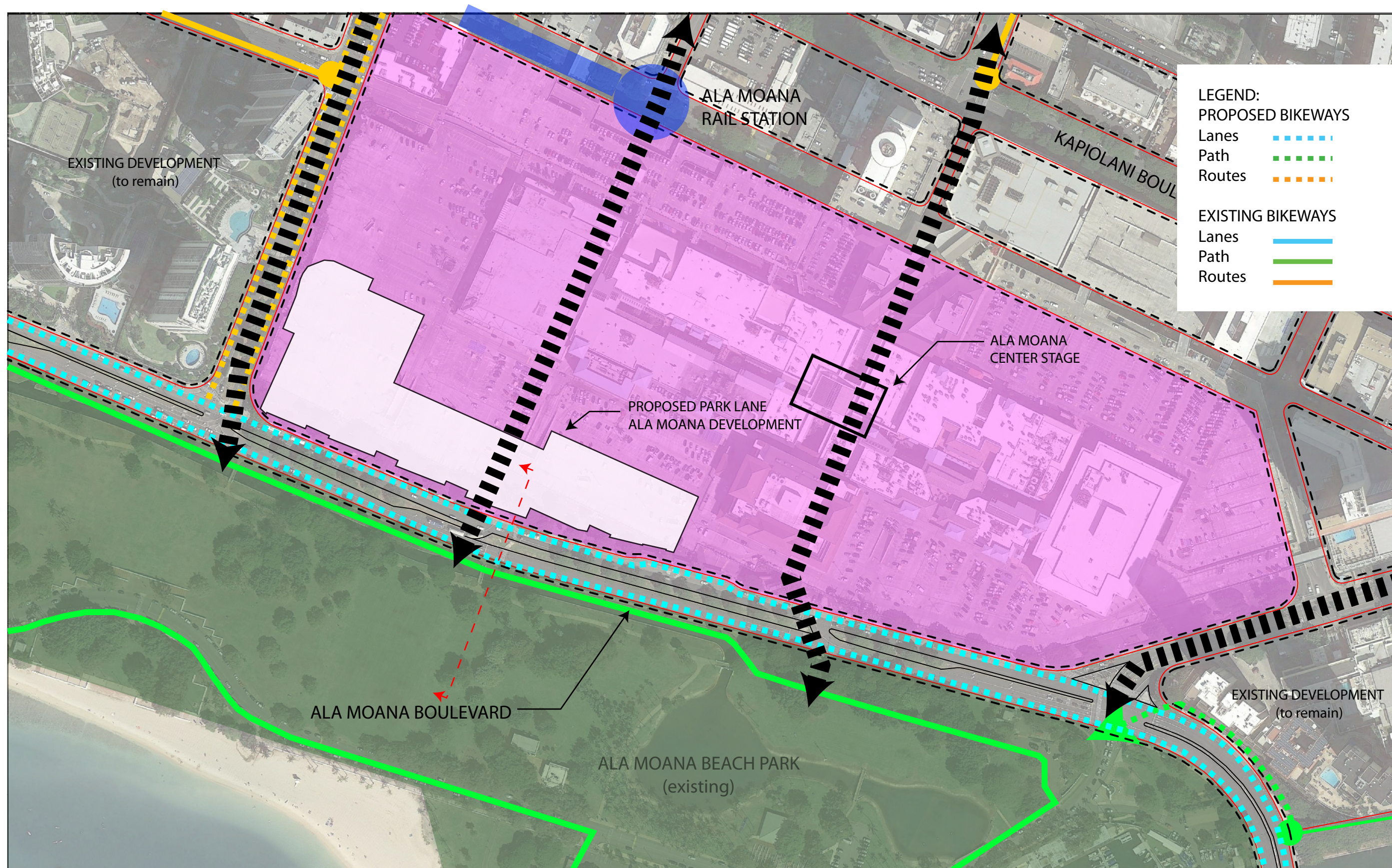
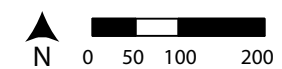


Figure 44: Ala Moana/ Oahu Bike Plan  
 Source: Heidi Suan, University of Hawaii at Manoa





Figure 45: Opportunities & Proposed Plan for Ala Moana  
 Source: Heidi Suan, University of Hawaii at Manoa





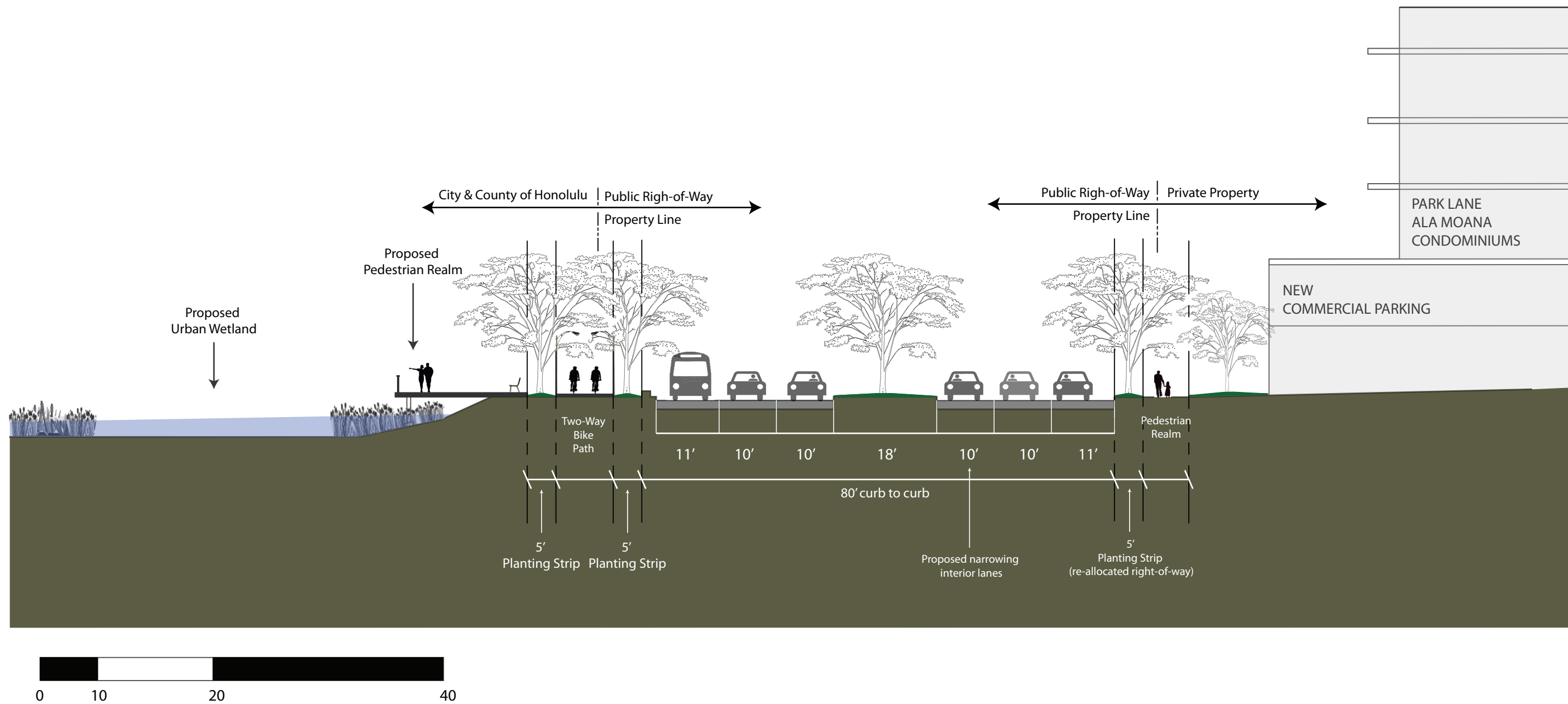


Figure 46: Opportunities & Proposed Section for Ala Moana  
Source: Heidi Suan, University of Hawaii at Manoa



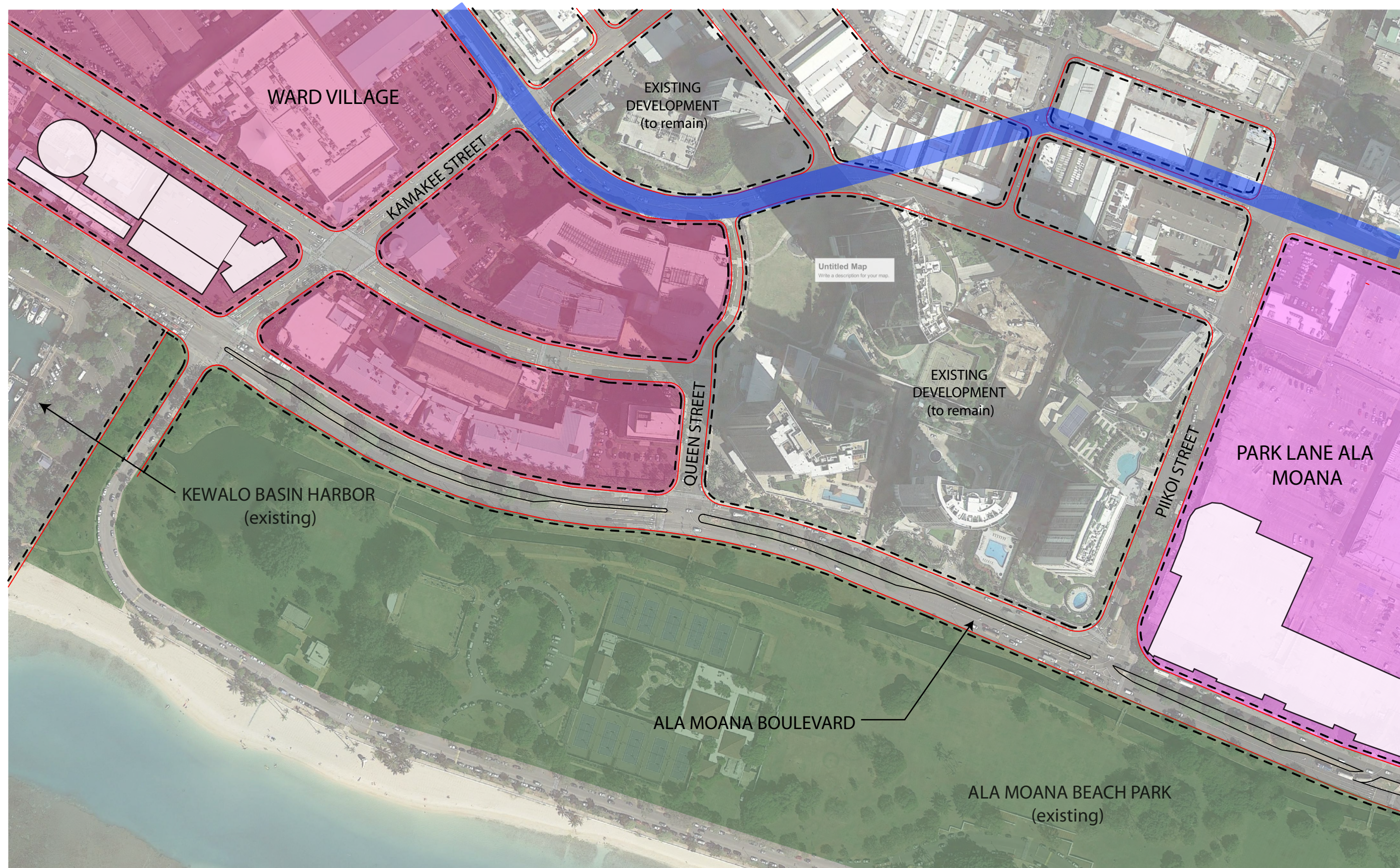


Figure 47: Existing Development (to remain)  
Source: Heidi Suan, University of Hawaii at Manoa



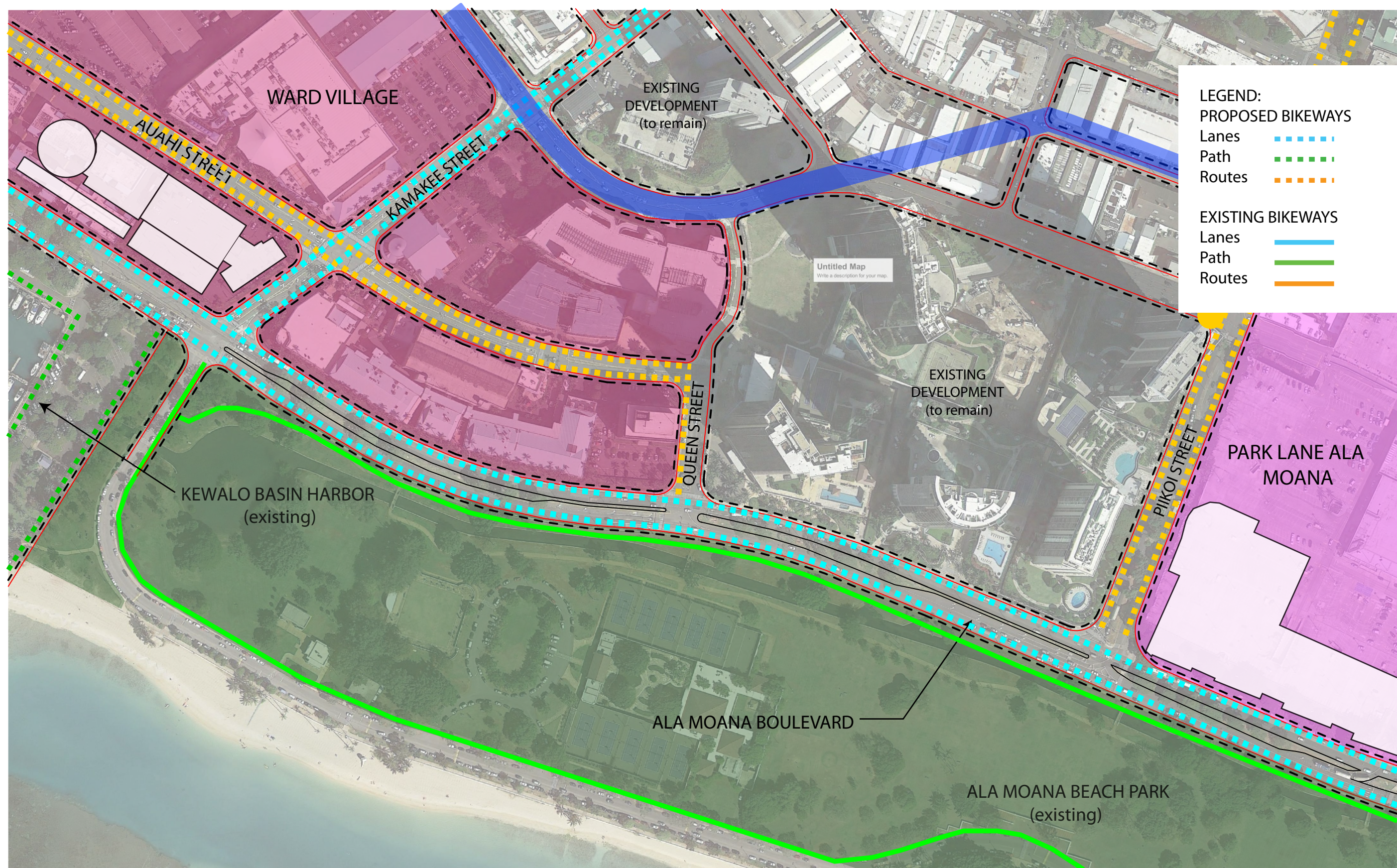


Figure 48: Existing Development/ Oahu Bike Plan  
 Source: Heidi Suan, University of Hawaii at Manoa





Figure 49: Kewalo Basin with Approved Development  
 Source: Heidi Suan, University of Hawaii at Manoa





Figure 50: Kewalo Basin/ Oahu Bike Plan  
Source: Heidi Suan, University of Hawaii at Manoa





Figure 51: Opportunities and Proposed Plan for Kewalo Basin  
 Source: Heidi Suan, University of Hawaii at Manoa



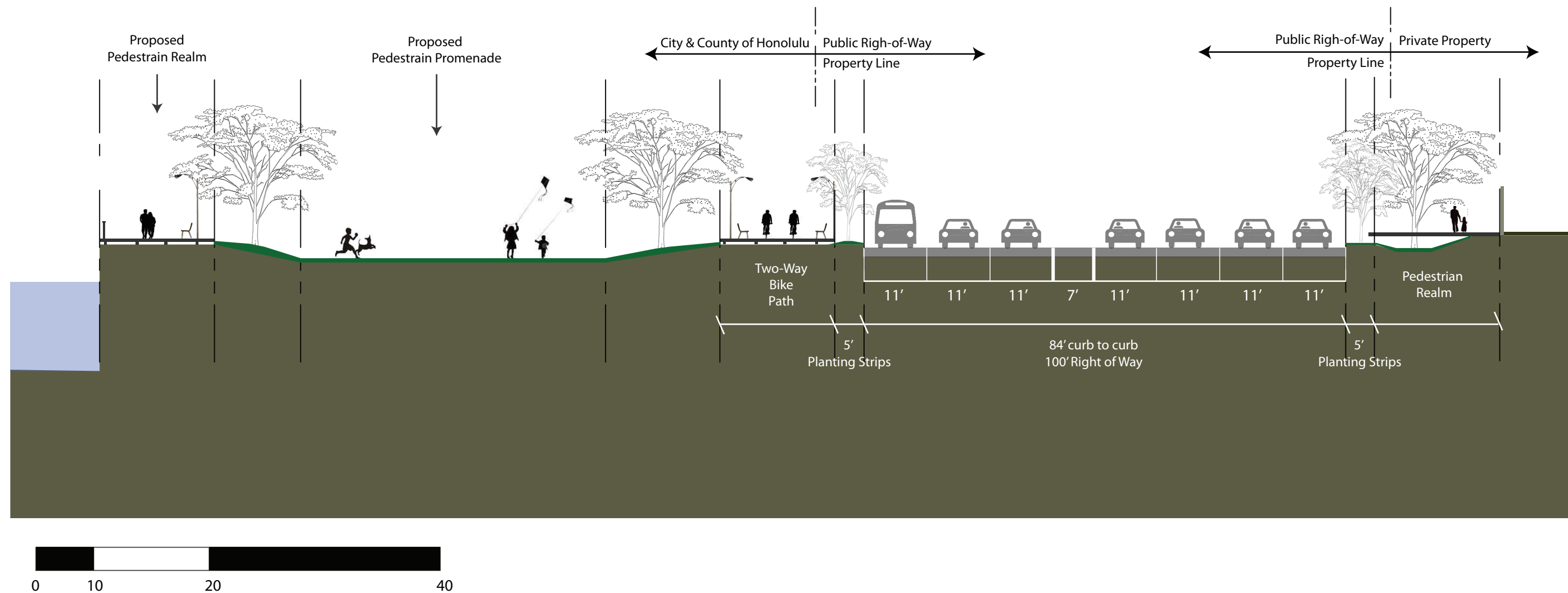


Figure 52: Opportunities & Proposed Section for Kewalo Basin  
Source: Heidi Suan, University of Hawaii at Manoa

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